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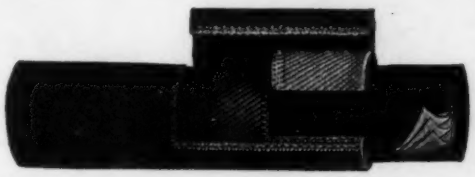
FIRE ENGINEERING

A Consolidation of
FIRE AND WATER ENGINEERING *and* THE FIRE ENGINEER

APRIL 25, 1926



Fabric Fire Hose

THE chief consideration in the purchase of fire hose is this: *How long will it give satisfactory service for each dollar of its cost?*

More and more fire departments, as they have learned of the unusual manufacturing processes that go to make Fabric wax and Para gum treated fire hose what it is, have been finding that its wonderful service qualities make it a truly economical hose.

It is far above the average fire hose in performance. It is absolutely waterproof and impervious to mildew and rot.

May We Quote on Your Next Requirements?

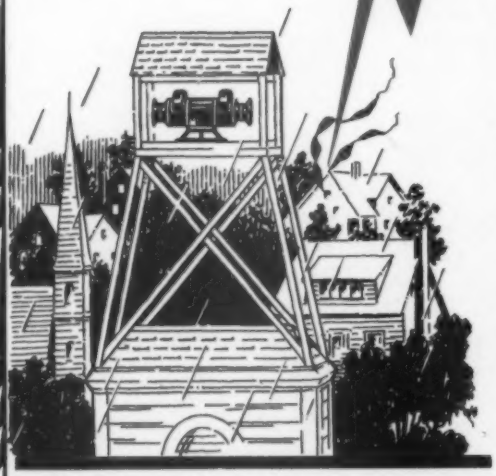
Fabric Fire Hose Co.

127 Duane St., New York, N. Y.

124-126 W. Lake Street, Chicago

Atlanta	Dallas	Minneapolis	Los Angeles
Boston	Binghamton	Portland	Newark
Columbus	Baltimore	San Francisco	Pittsburgh

The Mighty Sterling is the Ideal Fire Signal for your Town



The Sterling Model M illustrated above is the perfect and dependable fire signal for small cities and towns having Volunteer Fire Departments. It is also used extensively by large industrial plants and mines where an effective fire signal is important.

Give Your Town This Protection

Do not depend upon bells and whistles, but install a Sterling Model M that will shriek out the fire signal for miles around. Its warning can never be mistaken and it always commands attention and quick action.

Control switches to set in operation this effective signal can be placed at one or more central and convenient points in the town — at any street corner, the telephone exchange, power station, fire house, bank, etc., etc.

Write for particulars and terms of purchase. Use the coupon below.

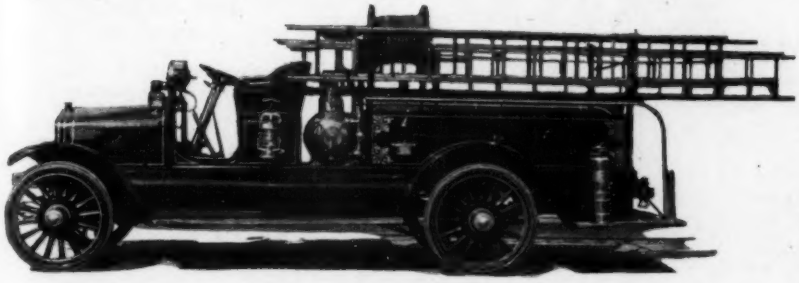
THE STERLING SIREN FIRE ALARM CO., Inc.

61 Allen Street — Rochester, N. Y.

Send particulars about the purchase of a Model M Sterling Siren.

NAME .....OFFICIAL POSITION.....

TOWN .....STATE .....



This Sanford of ten years ago rendered unfaltering fire protection service until it was replaced by

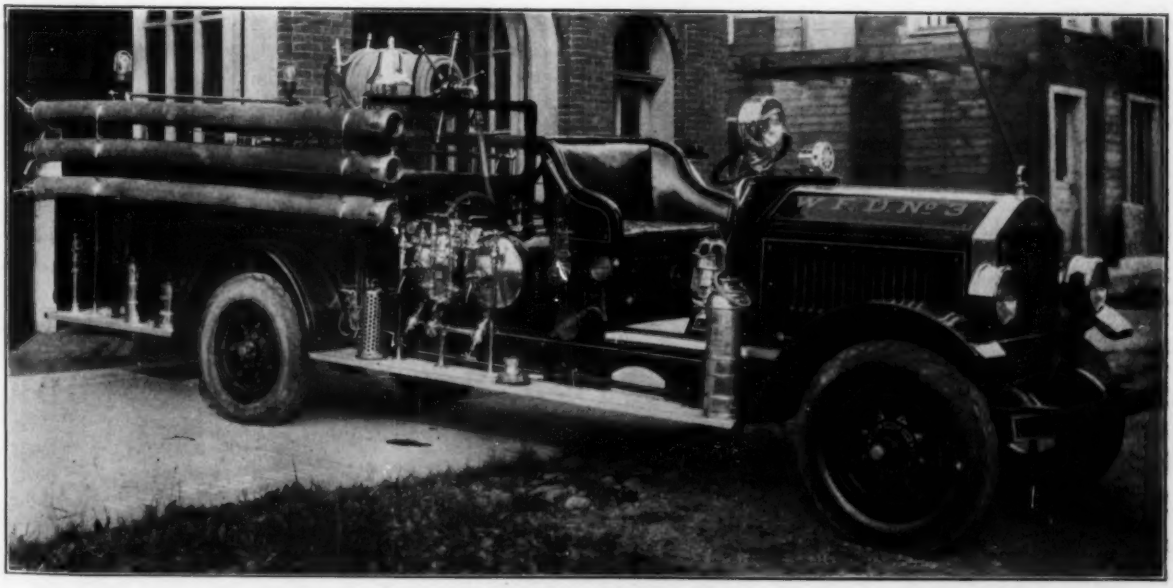
Then—

1915 AND

Now!

1926

The modern 500-gallon triple combination Sanford Apparatus of today which will give many more years of unfaltering service.



Fire Apparatus Division

SANFORD MOTOR TRUCK CO. Syracuse N. Y.

The Journal of the Fire Protection Profession Since 1877

MEMBER
Audit Bureau of Circulations
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FIRE ENGINEERING

A Consolidation of FIRE AND WATER ENGINEERING and THE FIRE ENGINEER

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Industrial Fire Protection Expert, Chief of Fire Brigades and Engineer of the Continental Insurance Co., and the "America Fore" Group of Fire Insurance Companies.

Enough is Enough!

YOU may have heard of the young fellow from Kentville, N. S., who tried to eat 80 eggs at one sitting. He lost his bet, according to the papers—quitting after consuming only forty!

¶ Well, at that, forty eggs are not to be sneezed at!

¶ And when it comes to beans, this northern food hound is not so slow, either. During the winter, when he is a member of a snow-plow crew, he has established a record of seventeen plates of beans and four loaves of bread at one sitting! Gosh!

¶ The papers don't state their size, but we shall not challenge him to an eating duel, anyway.

¶ Quality counts more with us than quantity—and we are sure that is true of the readers of this little magazine. Perhaps that is why you are reading FIRE ENGINEERING now, and why you will pass it on to your friends.

The Publishers

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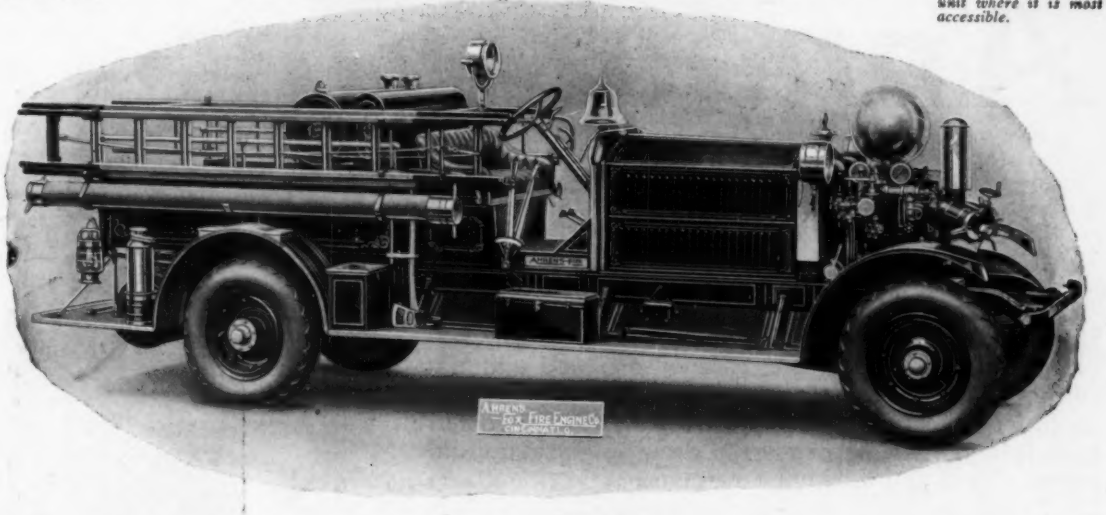
Entered as second class matter at the Post Office, Albany, N. Y. January 29, 1926 under the Act of March 3, 1879.

New Ahrens-Fox pumper — Complete, up-to-date, thoroughly dependable in every detail.

"Nothing is too good for fire service, and nothing but the best will do."—Ahrens-Fox

Note the balanced and sturdy construction and the practical position of the pumping unit where it is most accessible.



Modern Ahrens-Fox Apparatus

with twin pumping plant and super-powered fire apparatus motor is the standard of quality

Fire officials throughout the country who are alive to their public responsibilities invariably place quality—efficiency and dependability—above price and every other consideration in the selection of apparatus.

When the lives of their fellow-citizens, and their children, to say nothing of property valued at hundreds of thousands of dollars, are dependent for safety against fire upon the perfect operation of their equipment in every emergency, the selection of apparatus other than the best money can buy is unpardonable folly.

Fortunately, fire chiefs, commissioners, and other municipal officials who have the say-so in the purchase of fire department equipment are more and more coming to realize this fact, and are giving the selection of apparatus the careful consideration the work deserves.

Almost as naturally as day follows the night many of these up-to-date officials turn to Ahrens-Fox apparatus as the standard of quality in the comparison of the relative merits of apparatus of various manufacture.

There can be no question but that this recognition of Ahrens-Fox supremacy is justified by the facts. The service records of Ahrens-Fox apparatus in use everywhere back up their high regard to the limit. Ahrens-Fox performance and supremacy are made possible by the painstaking investigations and thoroughly practical work of Ahrens-Fox fire apparatus engineers who have devoted their lives to this work, by the use of only the finest materials obtainable, by modern manufacturing machinery, and by the employment of especially highly skilled workmen.

To all fire officials we shall be glad to send complete information on request. No obligation, we just want you to have the facts. A postal with name and address will do.

May We Send You Complete Information?

The Ahrens-Fox Fire Engine Co.

"Builders of Quality Fire Apparatus"

Cincinnati, Ohio

Eastern Representative
J. A. PRESCOTT
Fisk Bldg., New York

New England Representatives
CARLOW AUTO CO.,
Taunton, Mass.

Chicago Representative
HENRY R. EARLY
Planters Hotel, Chicago, Ill.

California Representatives
PACIFIC FIRE EXTINGUISHER CO.,
San Francisco, Cal.

Western Central Representative
J. G. MATHENY
3418 Central St., Kansas City, Mo.

Minneapolis Representatives
JOS. F. AUEL Company
718 Builders' Exchange Bldg., Minneapolis, Minn.

Canadian Representatives,
THE BICKLE FIRE ENGINE CO.,
Woodstock, Ontario

Announcing-

a strong new organization behind a tried and proved Fire Alarm and Police Signal System

The GARL SIGNAL COMPANY has recently been organized to take over the patent, sales and manufacturing rights of the Garl Electric Company. Ample capital and backing have been combined with more than thirty years' experience in designing and building alarm, signal and telephone systems.

This organization offers municipal and industrial fire departments the advantages of the GARL SYSTEMS of simplified signalling — advantages resulting from the use of the mercury contacts and portable telephones — which are covered by basic patents.

Consider these features of the GARL SYSTEM:—

1st — Simplicity of construction gives low first cost and insignificant maintenance expense.

2nd — Absolutely non-corrosive, failure-proof mercury contacts. Always gives signal and gives it right.

3rd — Telephone connection with headquarters from every signal box eliminates difficulties of telegraph system. Telegraph connection can be had when desired.

4th — No complications in cross-signals. Two boxes pulled on same circuit easily located.

GARL SYSTEMS have been in use for years in a number of cities and in some of the country's largest industrial plants. Service records such as 8 years without a bad call, prove the reliability of this system.

GARL SIGNAL boxes can be incorporated with any present system. The saving in costs for installation and up-keep warrants anyone who is considering a new system or additions to any present system, getting complete information about GARL SIGNALS before buying.

Send us your specifications and requests for quotations

GARL SIGNAL boxes are of attractive design and distinctly storm-proof

Note the simplicity of internal construction. Nothing to get out of order or to confuse the layman.

THE GARL SIGNAL COMPANY

Akron, Ohio

A RELIABLE FIRE ALARM SYSTEM MEANS LOWER FIRE LOSSES

Annual Water Flow Alarms Report for 1925 Shows

A Fire and Water Loss of Only 63/1000 of 1%

total losses to total value of property protected by

A. D. T. Sprinkler Supervisory Service

THE PRESENCE OF OUR SERVICE AND
AVAILABILITY OF FIRE ALARM BOXES
PREVENT DISASTROUS FIRES

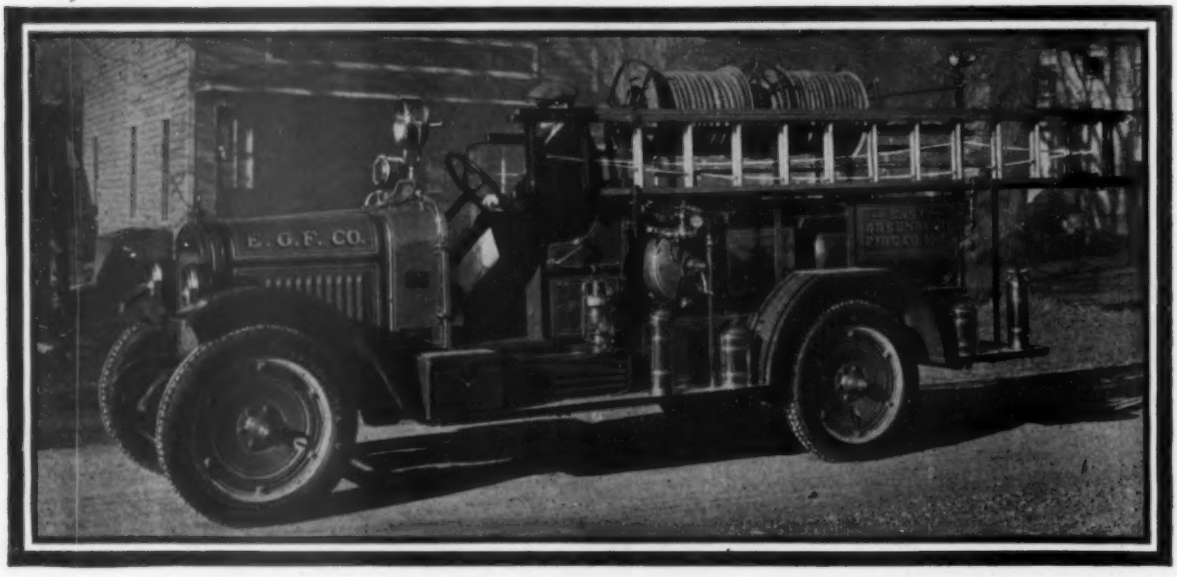
Fire Alarms Handled—1925

Town	Number Subscribers	Number Alarms Received	Reported Insurable Values	Losses Reported
Akron, O.	2	1	$3,330,000	$2,000
Albany, N. Y.	1	0	600,000	0
Atlanta, Ga.	48	31	17,885,000	123,526
Baltimore, Md.	65	21	32,649,084	3,015
Birmingham, Ala.	17	3	8,211,000	10,342
Boston, Mass.	132	53	81,281,250	21,770
Bridgeport, Conn.	5	1	1,420,504	0
Brockton, Mass.	22	9	5,398,050	500
Brooklyn, N. Y.	55	40	130,770,160	17,770
Buffalo, N. Y.	44	15	21,991,000	102,325
Canton, O.	2	0	1,400,000	0
Cedar Rapids, Ia.	9	3	7,250,000	100,000
Charleston, S. C.	2	0	700,000	0
Chattanooga, Tenn.	12	7	5,487,000	400
Chicago, Ill.	242	304	615,196,951	290,469
Cincinnati, O.	200	97	262,460,114	61,150
Cleveland, O.	50	16	48,390,000	3,500
Columbus, O.	20	2	18,739,346	0
Dallas, Tex.	58	16	40,009,290	200
Davenport, Ia.	3	1	2,623,954	0
Dayton, O.	7	2	2,651,000	0
Des Moines, Ia.	25	7	13,364,090	80,000
Detroit, Mich.	54	14	27,525,000	510
Dubuque, Ia.	14	1	6,327,000	0
Duluth, Minn.	11	13	17,100,000	50
E. St. Louis, Ill.	1	1	508,000	6,000
El Paso, Tex.	3	0	880,000	0
Evansville, Ind.	11	0	4,875,000	0
Ft. Worth, Tex.	12	3	14,910,000	0
Galveston, Tex.	6	4	11,149,759	0
Grand Rapids, Mich.	33	11	7,351,500	4,605
Hartford, Conn.	10	3	7,207,850	10,350
Houston, Tex.	35	22	28,300,000	9,437
Indianapolis, Ind.	15	2	8,290,988	0
Jackson, Mich.	1	0	100,000	0
Jacksonville, Fla.	6	2	2,550,000	350
Jersey City, N. J.	13	6	16,518,000	7,800
Kansas City, Mo.	88	81	33,997,400	9,689
Knoxville, Tenn.	21	2	9,322,000	3,000
Lansing, Mich.	1	0	25,000	0
Lincoln, Neb.	5	1	2,089,418	0
Long Island City, N. Y.	14	9	27,150,000	22,000
Los Angeles, Cal.	67	9	41,471,000	12,300
Louisville, Ky.	62	30	$26,240,000	7,611
Lynn, Mass.	8	2	1,870,000	100
Macon, Ga.	3	0	1,003,000	0
Mansfield, O.	1	0	500,000	0
Memphis, Tenn.	32	17	12,980,000	975
Milwaukee, Wis.	102	38	78,592,292	7,685
Minneapolis, Minn.	65	32	56,387,300	11,100
Nashville, Tenn.	37	8	17,083,000	7,175
Newark, N. J.	36	20	42,134,500	1,175
Newark, O.	1	0	200,000	0
New Haven, Conn.	4	3	1,690,000	300
New Orleans, La.	89	19	45,288,000	3,620
New York, N. Y.	770	416	376,713,387	540,130
North Tonawanda, N. Y.	1	0	500,000	0
Oakland, Cal.	9	4	10,450,000	560
Oklahoma City, Okla.	11	2	5,386,000	69,837
Omaha, Neb.	55	27	19,325,000	6,500
Paterson, N. J.	1	0	48,000	0
Peabody, Mass.	4	5	14,396,250	0
Peoria, Ill.	15	6	7,443,916	13,400
Philadelphia, Pa.	55	21	73,341,440	62,200
Pittsburgh, Pa.	63	34	41,737,537	6,673
Portland, Me.	22	3	10,500,000	200
Portland, Ore.	22	5	16,179,000	2,050
Rochester, N. Y.	8	2	4,450,000	610
Rockford, Ill.	6	2	1,204,286	750
Salt Lake, Utah	5	0	8,664,200	0
San Antonio, Tex.	17	5	9,472,000	0
San Francisco, Cal.	76	11	35,919,356	5,000
Savannah, Ga.	5	0	1,705,000	0
Sioux City, Ia.	19	9	15,635,000	255
Springfield, Mass.	13	4	6,631,900	0
St. Joseph, Mo.	17	14	12,589,000	20,300
St. Louis, Mo.	42	23	17,637,625	16,510
St Paul, Minn.	25	12	67,069,000	1,550
Superior, Wis.	2	2	2,355,192	0
Syracuse, N. Y.	6	1	6,400,000	0
Tacoma, Wash.	4	2	2,750,000	0
Terre Haute, Ind.	3	0	610,000	0
Toledo, O.	70	9	75,300,000	1,750
Topeka, Kan.	10	3	2,560,000	6,000
Washington, D. C.	5	0	2,370,000	0
Waterbury, Conn.	2	0	525,450	0
Wichita, Kan.	3	1	775,000	0
Worcester, Mass.	16	6	7,600,000	1,700
Youngstown, O.	8	4	6,434,000	245
Zanesville, O.	2	0	634,000	0
TOTALS	3,313	1,625	$2,727,041,319	$1,708,019

American District Telegraph Company

183 Varick Street, New York City

AMERICANS SHOULD PRODUCE THEIR OWN RUBBER . . . F.S. Firestone



Gum-Dipping Adds to Fire-Fighting Efficiency

"Having used Firestones on our apparatus for three years, we believe they give the best service in holding air pressure while in the Fire house and the best of traction on concrete, macadam or dirt roads, all of which we encounter in our district."

L. E. HERRICK, Treasurer
JOHN J. BAKER, President
East Greenbush Fire Co., Incorporated
East Greenbush, N. Y.

In Firestone Heavy Duty Pneumatics for Fire Apparatus greater Non-Skid protection is provided by the many specially designed traction-edges and extra depth of tread design—giving unfailing service at every speed with utmost driving control on all roads.

The extra Firestone Gum-Dipping process builds security and endurance in these big pneumatics by strengthening the side wall to better withstand the severe flexing strain. Strongly constructed carcass holds air pressure and specially built-up shoulders support the heavy machines while standing idle.

Longer mileage with greater economy result from standardizing on Firestone Pneumatics. See your Local dealer today.

MOST MILES PER DOLLAR

The Mark of Quality

Firestone

HEAVY DUTY PNEUMATICS FOR FIRE APPARATUS

Mishawaka Believes in Playing Safe!

New fire truck just bought by this progressive Indiana city, will carry as regular equipment this greatest of all weapons for fighting oil and gasoline fires—

AMDYCO

FOAM POWDER

Used with the Amdyco

FOAM GENERATOR

With the growing use of oil and other flammable liquids, no community can feel secure against such dangerous fire hazards without the protection that only the new Amdyco method can give. Fires that once took hours of hard work with untold loss of property, are now put out in a matter of seconds or minutes, as tests after tests have proven.

Try out the Amdyco equipment on one of your present fire trucks, and specify it on your next new piece of apparatus as Mishawaka did. It will easily pay for itself the first time you use it.

Write for literature describing the Amydco method. We will gladly send it to interested fire officials.

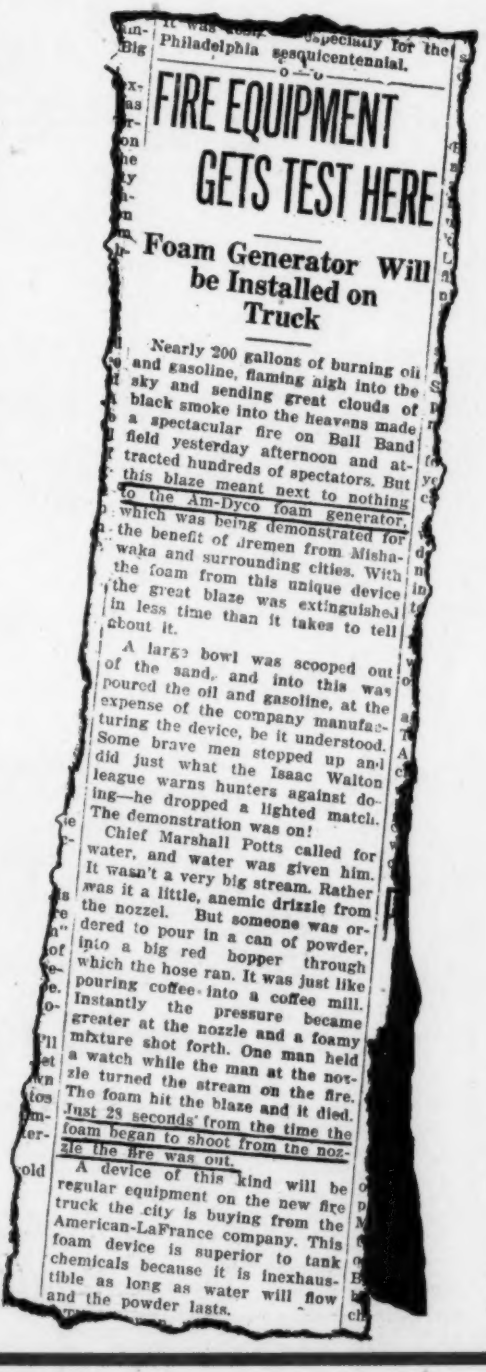
"Better Foam in Better Form"

AMDYCO CORPORATION

100 E. 42nd St., New York

Showing the Amdyco Foam Generator in operation. Water comes in one line (under regular pumper or hydrant pressure) mixes with the Amdyco Foam Powder that is fed into the hopper as demonstrated above, and goes out the other line as a foam stream.

Clipping from
Mishawaka, (Ind.) Enterprise
March 26, 1926



Philadelphia sesquicentennial.

FIRE EQUIPMENT GETS TEST HERE

Foam Generator Will be Installed on Truck

Nearly 200 gallons of burning oil and gasoline, flaming nigh into the sky and sending great clouds of black smoke into the heavens made a spectacular fire on Ball Band field yesterday afternoon and attracted hundreds of spectators. But this blaze meant next to nothing to the Am-Dyco foam generator, which was being demonstrated for the benefit of firemen from Mishawaka and surrounding cities. With the foam from this unique device the great blaze was extinguished in less time than it takes to tell about it.

A large bowl was scooped out of the sand, and into this was poured the oil and gasoline, at the expense of the company manufacturing the device, be it understood. Some brave men stepped up and did just what the Isaac Walton league warns hunters against doing—he dropped a lighted match. The demonstration was on!

Chief Marshall Potts called for water, and water was given him. It wasn't a very big stream. Rather was it a little, anemic drizzle from the nozzel. But someone was ordered to pour in a can of powder, into a big red hopper through which the hose ran. It was just like pouring coffee into a coffee mill. Instantly the pressure became greater at the nozzle and a foamy mixture shot forth. One man held a watch while the man at the nozzle turned the stream on the fire. The foam hit the blaze and it died. Just 28 seconds' from the time the foam began to shoot from the nozzle the fire was out.

A device of this kind will be regular equipment on the new fire truck the city is buying from the American-LaFrance company. This foam device is superior to tank chemicals because it is inexhaustible as long as water will flow and the powder lasts.

Waterous
Dependable
ROTARY PUMP

"Waterous Dependable"

Dependability has been an inbuilt quality of Waterous pumps for the past forty years.

Many Waterous pumps a score or more years old are still on the job and have never been taken apart for repairs or adjustments.

A pump of cheaper and lighter construction *might* get by, but it is the years of unfailing service that reveal the true merit of the Waterous.

Specify the Waterous Pump on your next apparatus and get the best!

WATEROUS FIRE ENGINE WORKS
INCORPORATED

Saint Paul, Minnesota

Also Manufacturers of the "Waterous" Fire Hydrant

Established 1886

Waterous
Dependable
ROTARY PUMP

FIRE ENGINEERING

(A Consolidation of Fire and Water Engineering and The Fire Engineer)

The Leading Journal of the Fire Protection Profession

VOLUME LXXIX APRIL 25, 1926 NUMBER 8

Two Huge Oil Fires Burn at the Same Time

Both in Plants of the Same Company, but Two Hundred Miles Apart—Lightning Responsible for Each Blaze

TWO great oil fires, one the largest in the history of the petroleum industry, were started within a few hours of each other by tanks being struck by lightning. The first and largest conflagration occurred at the farm of the Union Oil Company at San Luis Obispo, two hundred miles north of Los Angeles, on Wednesday morning, April 7. All through the night, about four hundred men battled in an effort to confine the blaze to the point of inception, and dikes were thrown up about the burning reservoir to prevent the spread of flames in the event that the tank boiled over.

The oil reservoir boiled over at 7 p. m. that night, and the large quantity of burning liquid flowed down the knoll on which the tank was located to the valley of the Santa Fe Creek. The fire had now spread to an area of about thirty-five acres, and three ranches were in the path of the advancing flames.

Three carloads of foam ingredients were rushed from the storage yards of the Union Oil Company at Los Angeles. By the time the shipment arrived, the fire had assumed gigantic proportions.

Oil Farm of Three Hundred Acres

The tank farm comprised three hundred acres. From this point, pipe lines extended to nearby communities. There were 6,000,000 barrels of oil stored here. The last reservoirs to catch fire were the largest on the farm—each holding 1,250,000 barrels. Like the other four tanks which had caught, the reservoirs contained refining crude of about 25 gravity. There were twenty surface tanks each of 55,000 barrels capacity and containing oil that had been placed through the refinery process once. This oil was of 60 to 70 gravity and was much more volatile than that in the larger reservoirs.

Believe There Were Two Lightning Bolts

The officials of the oil company are at loss to understand how four lakes of oil could be ignited from one flash of lightning; they believe that there were two bolts which struck simultaneously, causing two of the storage lakes to explode and throw their flaming board covers onto the other reservoirs.

The explosion of one of the tanks as it boiled over is believed to have killed a father and a son whose home was not far distant from the tanks. The bodies were found about three hundred yards from one of the burning tanks and their home was completely demolished. A daughter was seriously injured and removed to a nearby hospital. Last fall, the wife of the household was killed by a gas explosion.

Two Reservoirs on Fire at Brea, Cal.

Fire fighters from La Habra, Fullerton, Anaheim and neighboring towns battled to prevent the spread of this fire which was caused by lightning. The refinery is located about one-half mile from the burning reservoirs.

The Standard Oil Company tanker Schofield arrived at Avila, Port San Luis, to drain off some of the oil supply at that point in order to avoid congestion at that point. Other tankers were rushed to the scene.

The fire had spread until it created a flame a mile long, with the blaze ascending fifty to one hundred feet towards the sky. Because of the immensity of the fire, hope of salvaging any of the oil stored there was abandoned.

The San Luis creek which meandered over two miles of ground and at one point was ten feet distant from the Coast highway, was a seething ribbon of flame. Dikes and earth work were thrown up in an effort to prevent the flame from crossing the highway. The owners of six nearby ranches herded their cattle and moved them

Dense Smoke Screen at San Luis Obispo Fire.

A bolt of lightning is believed to have struck between two large underground tanks and set fire to the large oil farm. The explosion rocked the town and the fire spread until it became the largest in the history of the petroleum industry.

out of the danger zone; the buildings soon fell prey to the flames.

Various wild estimates of the fire loss have been made from time to time during the course of the fire, with $15,000,000 being a fair average. The property was insured for $7,000,000 by Dillon, Read & Co., of New York.

Second Fire at Brea, South of Los Angeles

In a storage area at Brea, twenty miles south of Los Angeles, and owned by the same company, lightning struck one of the oil tanks on Thursday, April 8, and caused a large fire which for a time threatened the safety of that settlement.

Three reservoirs with a total capacity of 2,500,000 barrels were soon in flames. The liquid which boiled over crept to within an eighth of a mile of the western edge of the town. The wearied fighters believed that a favorable wind would assist in keeping the flames away from the homes in the town. The town is also protected by a twenty-acre orchard and a ravine between the burning oil and edge of the home colony.

Small Oil Refinery Damaged

In addition to the reservoirs there was partial destruction of a small oil refinery with an estimated loss of $34,000. Three tanks of 10,000 barrels capacity were consumed, as were some homes and two orange and walnut orchards which were flooded with the burning oil. No loss of life was reported at this fire.

The Union Oil Company of California is the largest independent oil company in the state. According to a report made public, the assets of the company on March 31 was $56,000,000 and the net profits for the first three months were $2,700,000, after the deduction for depreciation and Federal taxes. The net income for the quarter is equivalent to seventy-one cents on a share of stock of $25 par value. In the same period, the company produced 3,550,000 barrels, a decrease of 350,000 barrels from the output of the same period in 1925.

Insurance Companies to Investigate Fire

The actuaries and executives of the larger insurance companies with offices in Los Angeles instructed their representatives on the Coast to make a complete investigation as to the cause and hazards of similar fires, in order to obtain information on which to base future insurance rates. Because of this record-breaking fire, there may be an adjustment of insurance rates.

At present the rate on oil stored in tanks is about fifty cents per $100, while the rate is sixty-five cents per $100 on oil stored in open reservoirs. It is believed possible that the latter rate may be doubled.

After a complete investigation of the fire is made, a great deal of valuable and interesting information will be brought to the fore, and it will be of intrinsic value to the fire chief who has frequent occasion to fight oil fires.

"Black Rain" from Fire Falls at Fresno

On April 8, "black rain" fell in Fresno, about ninety miles away from the San Luis Obispo fire. W. E. Bennett, meteorologist, stated that particles of soot from the oil fire had been carried over the valley and fell with the rain. Light clothing was spotted by the inky downpour.

Two Views of the Large Oil Fire at Brea, Cal.

Left—Two of the 750,000 barrel reservoirs which were struck by lightning on April 8. Fire spread to four other reservoirs nearby and consumed many of the surface tanks of 55,000 barrels capacity. Right—View of the ruins of the refinery of the Union Oil Company at Brea, Cal.

New Station Completed in Danville, Va.—A new fire station has been completed in Danville, Va., at a cost of $45,000.

Knowing Capabilities of Your Water System

Chief and His Men Should Know Available Pressures at All Points of Distribution System—Futility of 4-Inch Mains

By HENRY W. PILCH, Madison, N. J.

THE troubles resulting from the installation of 4-inch mains, as regards the proper pressure for efficient fire-fighting, is emphasized in the following article, and the argument is clinched by the citing of a case in point:

A water supply system is to a municipality what the heart and blood vessels are to the individual—and is frequently given about the same amount of thought and care. It is not until something goes wrong, which usually happens when the greatest reliance and demand is placed thereon, that there is a frantic effort to repair the damage; then it is generally too late. The

Fig. 1.

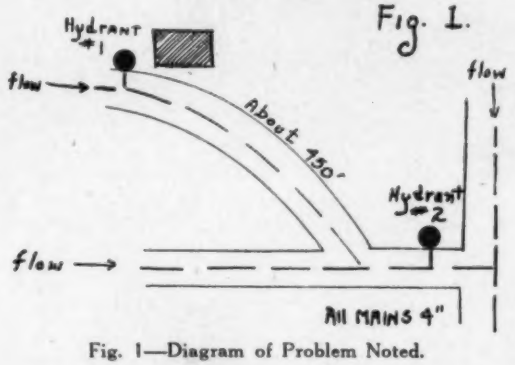


Fig. 1—Diagram of Problem Noted.

saying that man is as old as his arteries also applies to a water-supply system—a community is as well-off as its mains.

Mistake of Installing Small Sized Mains

I earnestly suggest that before proceeding to install a water system (or fire alarm system) a municipality should consult the nearest Underwriter's Rating Office and get the opinion of the experts there. It will save a lot of expense and trouble in the end, reduce replacements and mistakes to a minimum, and result in the lowest insurance rates possible.

One of the suggestions adopted by these bodies is that in the future communities install mains no smaller than six inches, and that all four inch mains now in use be replaced as soon as possible with six inch or larger pipe. Nevertheless, many towns and cities are negligently laying down permanent pavement without replacing the mains, while every day more and more service taps draw water from them as new houses are built.

Futility of 4-Inch Mains in Fighting Large Fires

To supply four inch mains with water sufficient to quench a large fire is like trying to force the Atlantic Ocean through spaghetti. "We have good pressure in our four inch mains, nevertheless," some councilmen and citizens cry. Yes, but if more than one line of hose is attached, the pressure drops to almost nothing. The flow is so restricted by the high friction that if a pump is used, a vacuum is often created.

Regularly Test Hydrant and Keep Records of Tests

Having increased the size of the mains wherever possible by means of a regular program of replacement, it should also be the practice in all communities to test every hydrant in order to ascertain the pressure both with and without the next hydrant towards the source of supply open, and also the number of gallons per minute. (See January 10 issue of FIRE ENGINEERING, as to use of Pitot Gauge. These figures should be placed on a map showing hydrant locations and size of mains placed in fire headquarters, and all officers, engineers and drivers should make themselves familiar therewith.

Where hydrants are not regularly tested, or where volunteer departments exist, firemen should make themselves familiar with the locations of hydrants on their streets, and personally see that the same are kept in good workable condition, free from snow and ice. All broken parts, frozen plugs, rusted or missing caps, cracked barrels, stripped threads (often caused by street repair gangs attaching fixtures) should be reported. Hydrants should be opened occasionally, tested for sticking valve, and grease applied to the threads before replacing caps. It is my experience that at a fire a hydrant will either be turned on or irrepairably broken, if it is inclined to "balk."

Result of Non-Familiarity with Pressure and Flow

The accompanying illustrations and diagram show the result of non-familiarity with the various details of pressure and flow heretofore mentioned. The fire in question occurred around nine o'clock in the morning on a Sunday. Though not generally admitted, the cause was undoubtedly a peach basket placed on an open grate fire, a spark from which fell on the shingle roof, burned a hole through it, and then landed in a lot of Christmas decorations, bric-a-brac, etc., stored away. At any rate, when discovered, the whole interior of the top floor was ablaze, and alarms were turned in from at least three places

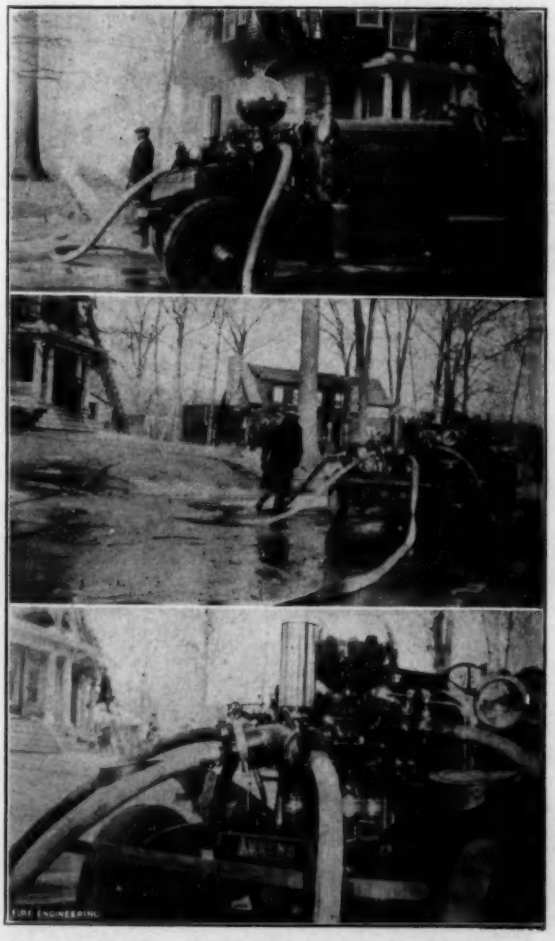


Fig. 2, (Upper) The Engine has Just Laid a Line from Hydrant No. 2, and Men Inside Have Announced That There Is No Pressure on Line No. 1. So Line No. 2, Stretched to Roof has Been Attached to Pump. Man on Sidewalk is Watching Uncoupling of Line No. 1 from Hydrant No. 1 (just to left of picture). Fig. 3. (Center), Line from Hydrant No. 1 Has Just Been Connected to Other Intake. Meanwhile Long Line From Hydrant No, 2 Has Been Supplying Both Lines No. 1 and No. 2. Fig. 4, (Lower), Engine Finally in Operation and Drawing from Two Hydrants.

The engine company shown in the illustrations was the first to respond, approaching from the left (facing opposite from that in the picture) and dropped a line of 2½-inch hose off at hydrant No. 1 (which is just to the left and outside of the pictures). This line was connected directly to hydrant No. 1. The engine crew then continued down to the corner of the next block, connected a line to hydrant No. 2, and returned, laying hose.

No Pressure at Nozzle

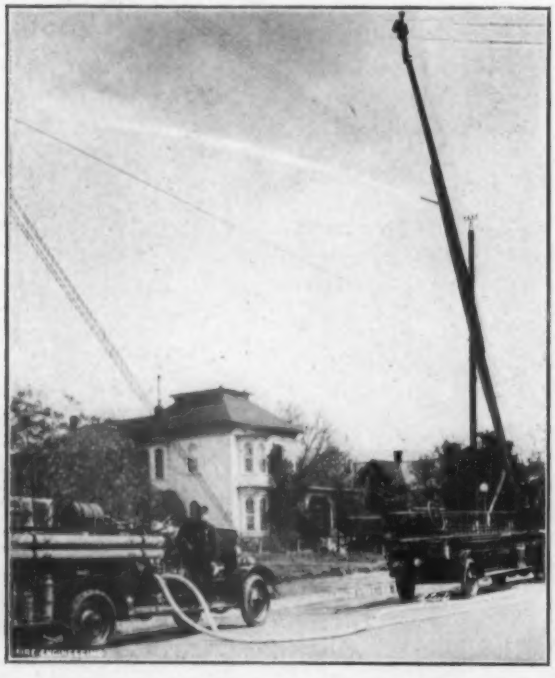
Meanwhile, the men operating at hydrant No. 1 had taken their line up to the third floor of the dwelling, and turned on the water. They were much surprised to find only a negligible amount of water at the nozzle.

The line from hydrant No. 2 was about to be taken to the roof, when the engineer was notified by the men inside, and the line from hydrant No. 2 was connected to the intake of the pump instead, (Fig. 2) and a line run off from the same. Pumping was then commenced through the long line to hydrant No. 2.

In the meantime hydrant No. 1 had to be shut down, the hose uncoupled at the end of the first fifty foot length, and connected to the other pump intake. The line was then attached to the other side of the pump.

Results from Small Mains

Two things resulted: Unnecessary delay and confusion in coupling and uncoupling the lines, and the stretching of a long line of hose to hydrant No. 2, through which water was drawn, at a high friction loss. The engineer afterwards said that, though a fire had never occurred in that particular neighborhood before, the pressure had always been "reported" as good. If he had known it was poor, he would have attached the pump directly to hydrant No. 1 (provided with two 2½-inch outlets using both sides of suction, and run two short lines to the dwelling, one inside and one outside. But thinking the natural pressure good, he had decided to run lines to hydrants No. 1 and No. 2 (on two different mains) and provide a more equal distribution of flow.



Stands on One Foot on Tip of Ladder

The above illustration shows a Seagrave 75 foot aerial ladder extended with a member of the San Bernardino, Cal., Fire Department perched on the top rung on one foot. As the ladder pipe shown in the illustration was in operation at a pressure of 150 pounds with a 1⅛ inch tip, our correspondent thinks this performance quite a testimonial to the smoothness of the stream delivered by pressure from the Seagrave Centrifugal Pumper shown in the lower left-hand corner of the picture.

Three Alarm in Panama City

The fire department of Panama City, Panama, made quick work of a fire which at one time threatened to envelop an entire section of a city. The alarm was sounded at 1:26 p. m., for a fire which started in a three-story building used for a rooming house. The alarm brought out a pumper, a chemical and hose car, and a ladder truck.

About thirty minutes later, the safety of nearby buildings was

Ruins of the Hotel in Panama City Showing the Narrow Streets, and the Lower Floor Practically Intact.

feared and a second alarm was sent in, followed shortly afterwards by a third alarm. At 2:15 p. m., the fire was brought under control and at 3:50 p. m., it was extinguished.

The district in which the fire occurred is composed entirely of wooden houses, and it is inhabited by the colored people that were brought over for the construction of the Panama Canal. The streets, as illustrated are very narrow, and the fire-fighting was therefore more difficult. The lower section of the building was only damaged by water, and a clock in the bar room was still keeping time after the fire.

The fire department is based on the same organization as that of the United States. They have American made fire apparatus, Eureka fire hose and a Gamewell fire alarm system. Chief Juan Anton Guizado is an active factor in reducing the fire losses of that city.

George J. Kuss Again on Job

The many friends of our Associate Editor, Former Deputy Chief George J. Kuss, of the New York Fire Department, will be very pleased to hear that he is again on the job after having been confined to his home for several weeks by illness.

Alexandria Bay Meeting Place for N. Y. Assn.

The 54th annual convention of the State Firemen's Association of the State of New York is to be held this year at Alexandria Bay, the beautiful resort at the Thousand Islands. The time chosen is the week commencing August 16, and an excellent program is being arranged for the delegates, both as regards the business of the convention and the matter of entertainment. The secretary of the association is Fred A. Davis, Fort Edward, and the treasurer, William H. Swartwout, 115 Main Street, Ossining.

Michigan Firemen Decide to Meet at Caro

It has been definitely decided to hold the 52nd annual convention of the Michigan State Firemen's Association at Caro instead of Wyandotte, as originally planned. Owing to lack of hotel accommodations and the inability to secure a boat on which it was intended to hold the convention, Chief George Giasson in the early part of March regretfully notified the executive committee of his city's inability to entertain the convention. The committee held a special meeting on March 24, at Saginaw, and decided upon the city of Caro, the home town of the president of the association, Chief F. D. Riddle. The committee visited Caro, met the various city officials, and then made the final decision to hold the convention there. The meetings are to be held in a large auditorium in a newly completed school building. There will also be ample space provided for manufacturers' exhibits.

Cotton Seed Plant Fire Spread by Conveyors

Sheds and Materials on Conveyors Carry Fire in Three Directions at One Time—Plant Completely Involved

A RATHER unusual but interesting type of fire is treated in this article of the series on administration.

Although cotton seed oil plant fires do not occur throughout the country, still the lesson taught by this blaze will be of value to most departments.

The sketch herewith shows the layout of the plant, and the occupancy and processes in the building were as follows:

Cotton seed was delivered by railroad directly to the seed house, from where it was taken by conveyors through a frame conveyor shed into the seed cleaning house.

The purpose of this part of the plant is to extract the dirt and foreign material from the cotton seed.

From the seed cleaner room the conveyor system carried the seed to the linters or delinting machines, where the lint was cut from the seed. These machines create a flying dust which had settled on rafters and in fact on all objects on which it could rest. The air, too, was filled with a stifling dust from the lint, which is easily ignited.

After the seed was linted it was conveyed to the hullers in the huller building shown in the sketch. In this part of the plant the seed was run through two hullers, the first known as a bar huller and the second as a disc huller.

The purpose of the hullers is to remove the hull from meat of the cotton seed.

The bar huller operated with a knife or cutting effect, separating the meat from the hull, while the disc is operated on the principle of an attrition mill with a rubbing effect under sufficient pressure to remove the meat from the hulls.

In this type of plant the bar huller will strike fire from pieces of metal or gravel passing through with the seed, and it is likely that in this case fire originated from this particular cause.

The disc hullers will also cause fire from foreign substances in the seed, and in addition to this balls of lint are liable to clog this machine and be set on fire by the rubbing of the plate. It was in this huller room that the fire originated.

From the huller room the hulls are carried to the hull house by a conveyor housed in a small frame conveyor shed.

The meat from the seed is taken from the huller room by conveyor to the press room where it is pressed into cakes.

Subsequently it was ground into fine meal and transported to the meal house by a conveyor shed of similar construction to the others in the plant.

The lint taken from the seeds was removed from the delinting house by conveyor and carried to the linting press room where it was pressed into bales.

All buildings in this plant were of brick construction with wood finishing throughout, with the exception of the frame conveyor sheds which were of light board construction.

The seed house was well filled with cotton seed and the hull house, meal house and linting press room were also quite well filled.

The cotton seed oil tanks shown in the sketch were only partly filled with oil at the time of the fire.

Power for the plant was generated on the grounds in a power house in which were also housed pumps supplying the 150,000 gallon water tank in the plant.

Fire Protection.

The plant had its own fire brigade which consisted of workmen assigned to the duties of extinguishing fire in the event of an alarm. The only apparatus consisted of a hose reel and 2½ inch hose thereon.

The plant had its own water system consisting of 7 hydrants, all supplied at a pressure of around 50 pounds.

This plant was located in the suburbs of the city and was fed by a 10-inch main about a mile long.

There were 5 available hydrants on this 10-inch main for use in the event of fire in the plant.

The Fire Department.

The department in the city in which this occurred consists of 3 engine companies, 4 hose companies, 1 ladder company and one chemical company.

All 3 engine companies are provided with 750 gallon pumpers while each hose wagon carries from 1,200 to 2,000 feet of hose.

Response to alarms from this plant by the municipal fire department are are follows:

First alarm: Engine company No. 1, hose company No. 1, truck company No. 1 and chemical company No. 1.

Second alarm: Engine company No. 2, hose companies No. 2 and 3.

Third alarm: Engine company No. 3 and hose company No. 4.

There were two engines held in reserve in the department.

The water pressure in the city main was maintained between 80 and 90 pounds during the course of the fire and there seemed to be a good supply of water at all times.

The Fire.

Fire originated in the huller building, and extended to all parts of the plant through frame conveyor sheds leading from the huller. Just how the fire traveled through these various sheds is not known for its progress had not been appreciated until several buildings had been involved.

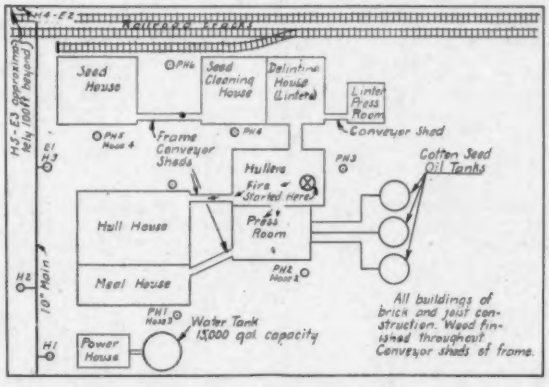
It appears, however, that fire originating in the hullers quickly flashed along an accumulation of lint beneath the conveyor into the delinting house.

From this point fire traveled through the conveyor sheds or beneath the conveyors both to linting press room and through the seed cleaning house to the seed house.

Fire after involving the huller building quickly spread to the press room through conveyors and also to the hull house and meal house through conveyor sheds.

The fire occurred just at noon hour as the machines were about to be shut down. An alarm was immediately sounded bringing out the plant brigade.

Lines were stretched at once into the fire building from three



different hydrants. So quickly had the fire spread that these three lines could not bring it under control.

After operating for about 10 minutes an alarm was sent in for the municipal fire department, which arrived promptly thereafter with engine Co. No. 1, hose Co. No. 1, truck Co. No. 1 and Chemical No. 1.

At the time of the arrival of the municipal fire department three lines were being operated, as noted above, from plant hydrants Nos. 3, 4 and 7, all of these lines being directed into the huller building.

Engine Co. No. 1 took hydrant No. 3 and while stretching in discovered fire burning in the hull house, and also in the conveyor shed between the huller building and the hull house.

This line was immediately assigned to covering this extension of the fire, the stream being operated first in the hull house and then in the conveyor shed which was rapidly becoming involved its entire length.

Hose Co. No. 1 took hydrant No. 2 and stretched a single line into the rear of the hull house. These two lines quickly brought the fire in the hull house under control and thereafter proceeded toward the huller building.

It seemed at this point that the private lines from the plant would be able to hold the fire in huller building, and everything appeared satisfactory.

Members from truck Co. No. 1, in addition to assisting in getting lines from engine 1 and hose 1 in operation opened up the hull house for ventilation and immediately began moving barrels of hulls out of the range streams and away from water which had accumulated on the floor.

After the department had been operating for 10 or 15 minutes and the fire in the hull house and conveyor shed leading

(Continued on page 423)

"The Fire Brigade" Winning Title in Film Contest

New York Fireman Wins $500 Cash Prize—Ten Other Prizes, $50 Each Awarded—Work on Production of Picture to Begin Immediately—First Showing at Chief's Convention in October

THE contest for a suitable title for the fire motion picture film to be produced by the Metro-Goldwyn-Mayer Studios under the auspices of the International Association of Fire Engineers has been decided with the first prize, $500 in cash, going to Fireman Jos. F. Barker, Engine Co. 59, New York City for his suggestion "The Fire Brigade." The ten other cash prizes of $50 each were awarded to members of fire departments in various other parts of the country.

While the official closing date of the contest was Feb. 20th, the great amount of work involved in tabulating the more than 50,000 title suggestions entered in the contest made it impossible for the judges—Louis B. Mayer, head of the Metro-Goldwyn-Mayer Studios, and J. W. Stevens, State Fire Marshal of California—to render any sooner the decision that has been so anxiously awaited by firemen throughout the United States and Canada. There were such a great number of good titles submitted that the judges had to go through the whole lot over and over again before selecting the prize winners.

The tremendous interest aroused by this contest which, incidentally, was limited only to members of fire departments, shows for one thing that firemen everywhere are ready to get behind this important picture project and help put it over in a big way.

Fireman Barker, who took first money, is 32 years of age and has only been a member of the New York Department for six months, having previously put in six years as a member of the New York Fire Patrol and two years as an inspector in the Fire Prevention Bureau. While unmarried, he is the sole support of his mother, with whom he lives.

Work Starts on Production of Film

Now that the title has been selected, the film will go into production immediately and take approximately two months to complete.

Charles Ray, famous screen star, will assume the leading role in the picture, supported by a cast which will include several other celebrated artists. Among these are Tom O'Brien of "The Big Parade" fame, and baby Irene Butler, who won the recent child movie star contest in which there were more than 40,000 entrants. This will likely be little Irene's first picture.

The numerous fire department scenes required in the film will be taken in various parts of the country, although the Los Angeles fire department will come in for a large part of it because of its proximity to the studios at Culver City, Calif. The Los Angeles Fire Commissioners have given Chief Ralph Scott permission to place his entire department at the disposal of the film producers and cooperate in every way possible.

Metro-Goldwyn-Mayer have laid plans to make "The Fire Brigade" one of its big feature productions of the year, in a class with "The Big Parade," "Merry Widow," and other successes that have taken the country by storm.

William Nigh, one of the best known screen directors in America, has been assigned by Louis B. Mayer to the task of directing this production.

"The Fire Brigade" will be based on an unusually interesting story of a fireman's life—a romance filled with thrills, intrigue, laughs and heart throbs, carrying through as its theme the great sacrifice firemen are called upon to make in the line of duty. It is predicted that this film will do as much to further the welfare of fire fighters as the "Big Parade" did to get better recognition for returned soldiers. At the same time "The Fire Brigade," while not intended as fire prevention propaganda, will teach a forceful and vivid fire prevention lesson.

According to the present plans, the picture will have its first presentation during the New Orleans convention of the International Association of Fire Engineers to be held October 19-22. It will then be booked for a gala opening at New York, after which arrangements will be made to have it shown all over the U. S. and Canada, as well as other parts of the world.

How Motion Picture Will Be Distributed

While "The Fire Brigade" will have its initial presentation in New Orleans and New York in October, it is likely that duplicates of the film will be shown practically at the same time in the other principal cities of the country. Just as soon soon after that as the necessary arrangements can be made, the picture will appear in all the other cities and towns throughout America, as well as other parts of the world.

When the proper time comes, probably in the Fall of this year, Metro-Goldwyn-Mayer representatives will call personally on fire chiefs everywhere, and with their cooperation will enter into negotiations with local theatre owners for the presentation of the film. In addition to what the International Association of Fire Engineers gets direct from the producers as its share of the proceeds, a plan will be worked out whereby fire departments will receive for their pension or relief funds a percentage of the box office receipts of their local theatres.

All of this will be given to you in more complete detail later. In the meantime, make your plans to get every member of your department lined up solidly behind this picture when it comes to your city. The more you do to push it the more benefit will you and your men, and in fact every other member of the fire fighting profession get out of it.

And another thing to bear in mind, several film producers other than Metro-Goldwyn-Mayer are coming, or have come out with pictures in an effort to imitate and steal the thunder of "The Fire Brigade." Let those pass by the wayside, and save all your energy for "The Fire Brigade."

Its the opportunity of a lifetime, folks, to make the fire fighting profession mean something more than a struggle with politicians.

Let's all pitch in and make the most of it!

If there is anything about the film that is not quite clear to you, or if you want information about membership in the International Association of Fire Engineers, write to Jay W. Stevens, State Fire Marshal, Merchants Exchange Building, San Francisco, Cal., who is in charge of the Association's picture committee, or to I. H. Case, care of FIRE ENGINEERING, 225 W. 34th Street, New York City, who is chairman of the publicity and membership committee.

PRIZE WINNERS IN FILM TITLE CONTEST

FIRST PRIZE—$500 CASH

Joseph F. Barker, Engine Co. 59, 108 W. 137th St., New York. Title Suggested "THE FIRE BRIGADE."

NEXT 10 BEST—$50 EACH

Mike Giddings, 11th and Jackson streets, Omaha, Nebraska. Title "RED FOAM."

H. A. Nash, Fire Department, Lankershim, Cal. Title "RED SKIES."

William N. Wood, 865 Second Street, San Diego, Cal. Title "FIREBOUND."

J. A. Boersig, Engine House No. 1, W. 4th Street & St. Clair Ave., Cleveland, Ohio. Title "THE RED FOE."

James Lane, No. 1 Fire Station, Youngstown, Ohio. Title "WHEN THE CITY'S ASLEEP."

Art. L. Headlough, Acting Captain, No. 3 Fire Station, Akron, Ohio. Title "THE RED HELMET."

Val Schiltz, No. 1 Fire Station, Aurora, Illinois. Title "MADONNA OF THE FLAMES."

Frank L. Purnell, Linden and Huffman Ave., Dayton, Ohio. Title "ALTAR OF FIRE."

John L. Batnett, No. 3 Fire Station, Atlantic City, N. J. Title "THE BRASS GONG."

August Briew, 487 Laurel Street, New Orleans, Louisiana. Title "FLAMES OF VENGEANCE."

COURSE OF INSTRUCTION IN FIRE PROTECTION

AS GIVEN AT THE UNIVERSITY OF ILLINOIS

MECHANICAL INSTALLATIONS

By RAYMOND T. NELSON,
Engineer, Western Actuarial Bureau, Chicago

THIS ninth installment of the University of Illinois Course in Fire Prevention deals with a type of common and very important hazards which the chief has to combat in his fire prevention work, the improper installation of mechanical and electrical devices. This paper is replete with valuable hints along these lines:

When we come to consider mechanical installations, we leave the structure to itself and revert to a different type of hazard than we had in the case of a building. If you will recall, fire hazard is divisable into two groups, causative hazards and contributive hazards. Causative hazards are those which originate combustion, while contributive hazards tend toward the spread of the fire when once started. A device will start a fire but will not tend to spread it, this latter effect being caused solely by the materials surrounding the device.

I will not discuss these various causes found within a building, but will only make direct mention as to what the hazard includes, not attempting to say why the individual devices are hazardous. In other words, I will merely take them up from the standpoint of their installation, that they may be installed as safely as possible.

ENCLOSURES FOR ELECTRIC MOTORS AND DYNAMOS

Small Enclosures (Fig. 1)

Size: Cubical contents of enclosure should not be less than three times the product of the dimensions of the motor or dynamo (length, length of shaft, and height). For enclosures of minimum size, the height should not be greater than one and one-half times the height of the motor or dynamo.

Enclosures for motors not in dusty surroundings, having sides and top constructed of No. 16 mesh wire screen on metal framing, need only be large enough to permit easy access for inspection and cleaning.

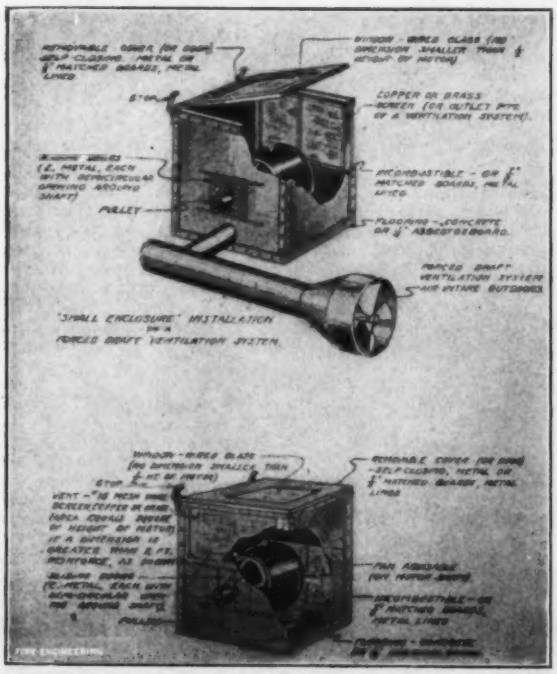


Fig. 1. Small Enclosures for Electric Motors and Dynamos

Sides and top should be constructed of any substantial incombustible material, or of matched lumber, not less than ⅞ inch thick, lined throughout with ¼-inch asbestos or equivalent material.

Floor, if combustible, should be covered with ¼-inch asbestos or equivalent material.

Door should be equal in size to one full side or top and be self closing.

Window should be of wire-glass and located so apparatus may be plainly seen. No dimensions should be less than one-half the height of the motor or dynamo but need not exceed 2 square feet.

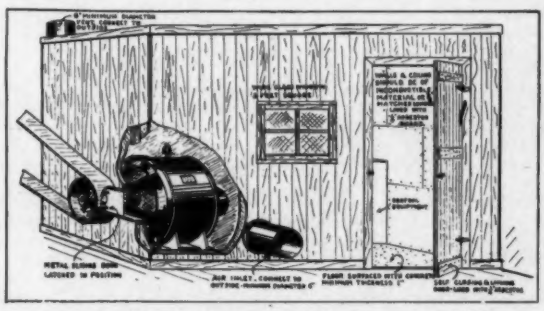


Fig. 2. Room Enclosures for Electric Motors and Dynamos

Ventilation: All enclosures should be ventilated.

Ventilation of enclosures of minimum size, when motor is not subject to inflammable dust or flyings, may be effected by means of at least two No. 16 wire mesh screens placed on opposite sides of enclosure, one near top, the other near floor. The area of each screen should equal the square of the height of the motor or dynamo. If either dimension exceeds 2 feet, screen should be reinforced.

If device is subject to dust or flyings, screens should not be used. Ventilation should be effected by two metal pipes to the outside of building, the diameter of which should equal one-fourth the greatest dimension of device, unless a blower is used to circulate the air. If blower is used, pipe need only be supplied for intake, outlet being screened as above described. Intake pipe should enter box near floor and exhaust pipe on opposite side at top.

Ventilation of enclosures larger than minimum size should be effected by the use of two metal pipes not less than 6 inches in diameter vented to the outside of the building. Intake and exhaust pipes should enter and leave box as above described.

Power Transmission should be effected by shaft passing through side of box with pulley on the outside. Hole in side should be as small as possible and closed by two pieces of galvanized iron, sliding horizontally in grooves, with semi-circular openings in each, closing tightly over shaft and held in place by hooks, thumb screws, or other similar fastenings.

Room Enclosures (Fig. 2)

In general, room should be built as nearly dust proof as possible. It should be used for no other purpose and be of such a size that a man may enter and have free access to all apparatus.

Walls and ceiling should be constructed of any substantial incombustible material, or of matched lumber, not less than ⅞ inch thick, completely lined with ¼-inch asbestos or equivalent material.

Floor, if combustible, should be covered with one inch of concrete or equivalent material.

Door should be all metal or of matched lumber, not less than ⅞ inch thick, lined with ¼-inch asbestos or equivalent material, and be self closing.

Window should be of wire glass in fixed sash, not less than two feet square and be so located that apparatus may be plainly seen.

Ventilation: All rooms should be ventilated. Ventilations should be effected by the use of two metal pipes not less than 6 inches in diameter, vented to the outside of building. Intake

pipe should enter room near floor at one side and exhaust leave at or near top at other side.

Power transmission: If pulley is outside of room, shaft passing through wall should have least possible clearance. Hole in wall should be closed by two pieces of galvanized iron, sliding horizontally in grooves, with semi-circular openings in each, closing tightly on shaft or bearing and held in place by hooks, thumb screws, or other similar fastenings.

If by belt passing through wall, belt should be housed in an enclosure of metal, or of matched lumber, not less than ⅞ inch thick, lined throughout with ¼-inch asbestos or equivalent material. Housing should be provided with a hinged panel to permit cleaning.

Control apparatus should be located inside of the room.

Room Enclosures (Fig. 3)

In general, room should be built as nearly dust proof as possible. It should be used for no other purpose and be of such a size that a man may enter and have free access to all apparatus.

Walls and ceiling should be constructed of any substantial incombustible material, or of matched lumber, not less than ⅞ inch thick, completely lined with ¼-inch asbestos or equivalent material.

Floor, if combustible, should be covered with one inch of concrete or equivalent material.

Door should be all metal or of matched lumber, not less than ⅞ inch thick, lined with ¼-inch asbestos or equivalent material, and be self closing.

Window should be of wire glass in fixed sash, not less than two feet square and be so located that apparatus may be plainly seen.

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Control apparatus should be located inside of the room.

Installation of Internal Combustion Engines (Fig. 4)

Location: Engines located so as to be subject to inflammable vapors, dust or flyings should be enclosed in rooms well ventilated to the outside at floor and ceiling.

Feed: Gas Engines: Feed pipe should run as direct as possible and be provided with a shut-off valve in service side of

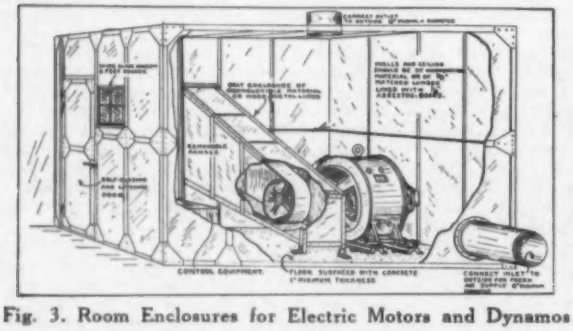


Fig. 3. Room Enclosures for Electric Motors and Dynamos

pressure regulator. Gas bag or pressure regulator should be enclosed in a gas tight metal drum vented to the outside through a pipe used for no other purpose.

Gasoline Engines: Supply tank: (See plate B.4.a.) Feed pump should be of an approved type and have check valve as close to pump as is convenient. Carburetor should have an overflow connection draining back to supply tank.

Kerosene and Fuel Oil Engines: Supply tanks: (See plate B.6.q.) Auxiliary tanks for providing a supply of oil within building should not exceed 60 gallons. Tank should be filled by pump, and have overflow pipe draining back to main supply tank. Oil should be drawn from auxiliary tank by approved pump operated by engine. Gravity or compressed air feed may be used from tanks not in excess of one gallon.

Ignition: Gas and Gasoline Engines: Electric ignition only should be used. Kerosene and Fuel Oil Engines: Torches for preheating combustion chambers should be of an approved type and used only while starting engine.

Muffler: Muffler should be on firm foundation and have at least 12 inches clearance to combustible materials.

Exhaust: Exhaust pipe should be carried above the roof or extend at least 10 feet from any wall opening. Clearance between exhaust pipe and combustible materials should not be less than 9 inches. When exhaust pipe passes through combustible partitions, floors, walls or roof, it should be guarded,

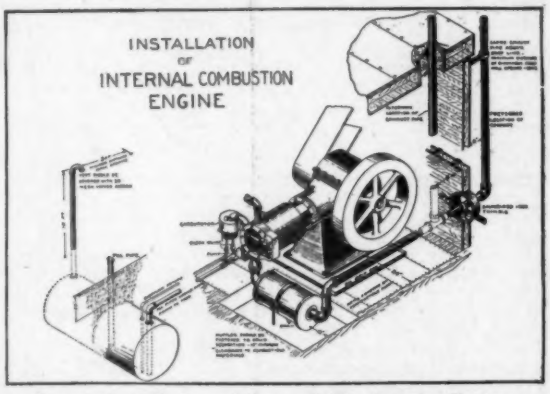


Fig. 4. Installation of Internal Combustion Engine

by a metal thimble at least 12 inches larger in diameter than the pipe.

Floor: Wooden floor under engine should be covered with metal extending 24 inches on all sides of engine.

Drip Pan: Drip pan should be provided under engine.

(To be continued)

New Jersey Associations Meet in September

The New Jersey Fire Chiefs' and the New Jersey State Firemen's Associations are to meet this year at Atlantic City, N. J., on September 24 and 25, according to information received from T. Howell Johnson, the treasurer. While it has not been announced, it is probable that the meeting place will be on the Steel Pier, as usual. The Fire Chiefs' Association will hold its sessions on the evening of September 24. The secretary of the Chiefs is Fred A. Trowbridge, 17 South Street, Morristown, N. J. and that of the Firemen's Association, William Exall, Chamber of Commerce Building, Newark, N. J.

Florida Firemen Hold Convention at Palatka

The annual convention of the Florida State Firemen's Association was held at Palatka, Fla., on March 30 and 31, with headquarters at the Women's Club. The association was welcomed by Mayor F. E. Waymer, of Palatka, and the response was made by Captain J. B. Chancey, Jacksonville, at the opening session at 10 a. m., March 30. At this session addresses were made by President Hershey, Hollywood, Fla., and Ex-Chief James C. McNeill, Fayetteville, N. C. Chief R. S. Coleman, Miami, moved that Ex-Chief T. W. Haney be made an honorary member. Chief Haney accepted the honor in an address.

It was moved and carried that the authorized representatives of manufacturers be allowed associate membership in the association.

At the 1:30 session of the convention, Ex-Chief McNeill made an address setting forth the advantages of the proposed pension bill to be introduced by the association at the next session of Florida Legislature. The bill was then taken up section by section, and passed on by the association, a few changes being made in the text.

At the morning session on March 31 an address was made by Captain Brockless, of Saginaw, Mich.

The following officers were elected: President, Chief E. F. Beville, Gainesville; first vice-president, Chief J. B. Chancey, Jacksonville; second vice-president, Chief R. S. Coleman, Miami; secretary (re-elected), Chief F. C. Pfaender, Winter Haven, and treasurer (re-elected), B. B. Hart, Daytona.

It was decided to hold the next convention at Hollywood.

WITH THE EDITOR

Smoking in Theatres

In New York and many other large cities smoking is permitted in the auditoriums of theatres insofar as fire department regulations go. While it is forbidden in property rooms, paint rooms, carpenter shops, scene docks, locker rooms, dressing rooms, engine and boiler rooms and under the stage and auditorium still it is permitted in the most dangerous of all parts, the auditorium. With the ever growing use of cigarettes the danger of fire keeps pace. This is particularly so in theatres where there may be numbers of women many of whom are dressed in flimsy, highly combustible garments.

It would not take any great imagination to conceive what would happen in the event of the clothing of a single individual taking fire, particularly when the crowds are congested in the aisles during dismissal.

Then, too, the presence of combustible upholstery, carpets, and even drapery increases the likelihood of disaster in the event of fire starting.

It is not the intensiveness of the fire but the panic which fire creates that must be taken into account.

Histories of past theatre fires show conclusively that the loss of life is greater from panic than from actual contact with fire.

Why not keep apace with the national movement toward safety by prohibiting smoking in all parts of theatre buildings except smoking rooms. It would surely head off the inevitable fire and panic, with heavy loss of life, and only advance the day of such prohibition. It would be locking the barn door before the horse was stolen, by preventing a holocaust which is bound to occur ultimately if the present practice is permitted to continue.

A Precedent Worth Following

Through the efforts of the South Carolina Firemen's Association a bill was introduced into the legislature of that state and has been passed and just signed by the Governor. This bill makes it obligatory for every hospital in the state having ten beds or more and every public school in the state in cities which have fire alarm systems to install auxiliary fire alarm layouts to be connected to the municipal system.

In other words all public schools and hospitals, medium to large in size, will hereafter have direct contact with the local fire department through the agency of auxiliary fire alarm systems.

Apparently the South Carolina Association has attached importance to the number of fatal fires in hospitals and schools and their energetic prosecution of the bill, terminating in its enactment, speaks volumes for the work of the officers and members of that association.

State enforcement of protective measures in hospitals and schools, requiring the installation of fire alarm systems, is an excellent precedent. It is one which deserves copying.

Arson and Juries

One of the most effective size-ups of arson as a crime that has appeared in print in recent years is given in a bulletin issued by the Industrial Commission of Wisconsin, of which Mr. J. E. Florin is Superintendent of Fire Prevention.

The article is given in full in the following paragraphs:

"Of all the crimes, human, inhuman and preterhuman, that befoul the dockets of American law courts, none but murder is quite so base and so slinking as arson. In one respect, indeed, it even exceeds in heinousness the capital offense, for, unlike murder, arson by its very nature can scarcely be committed except in cold blood.

"Hardly to be conceived is such a pleading as unpremeditated arson. The dastardly plot of arson always must be concocted in advance, the lurid torch kindled beforehand by steady fingers, the sickening flames nursed into strength with cool attention. Neither a blinding passion, a numbing rage, or a momentary state of unbalance incites the act of arson; in fact, the presence of any one of these conditions could serve but to embarass the commission of the deed, not further it. There can be no recklessness, nothing of the accidental; all is calculation and express design. Although instances do occur wherein the torch is brandished by a mental or moral pervert, they are rare as compared to the cases in which the scheming and responsible mind figures.

"It is, therefore, in this despicable light that arson should be viewed by juries and by the public generally which supplies the talesmen. Abundant proof is in the records that such an attitude as this is coming to be taken, more and more, and it is only so that incendiarism can finally be stamped out. The deliberate burner of property is a viper who thrusts at the body of society. He should be ground under heel.

"Sometimes foul, premeditated murder is added to the crime of arson. The knowledge that humans are

wrapt in slumber within the building does not halt or stay the hand applying the torch.

"Moreover, the people, not insurance companies, pay the fire damage caused by the vile arsonist. They pay in larger insurance premiums and in increased costs of things purchased, all insurance cost being included in the sale price. They also pay the court costs.

"It passes human understanding why any sympathy of jurors or the public should be wasted on these social vipers."

Checking Careless by Law. Of the few habits which can be changed by legislation, possibly that of carelessness as regards to fire safety is the most susceptible to treatment.

But it is not through direct legislation against carelessness that the greatest results are accomplished; instead, it is only where carelessness may result in damage to others that effective work is accomplished.

YOU'VE SET FIRE TO MY PROPERTY, SMASHED UP MY MACHINERY AND WASTED TIME AND MONEY — GOODNESS ONLY KNOWS WHAT YOU HAVEN'T BEEN RESPONSIBLE FOR
THE STRAP FOR YOURS!
THEN YOU CAN PRACTICE FOR A WHILE ON THAT HIDE! —

For instance, where a property owner has a fire, due to his carelessness and the fire extends to adjoining property, the owner of the property in which the fire originated may be held liable for any damage to his neighbor.

Or, better still, as was recently demonstrated in Cincinnati, a property owner may be held liable for the cost of extinguishing a fire by the local department due to the fact that he failed to follow orders of the fire department to eliminate hazardous conditions. In other words, for his carelessness he was required to pay the cost of extinguishing a fire in addition to the loss he experienced.

There are plenty of laws now on the statute books, which if properly enforced, would go a long way toward reducing fires from carelessness.

The situation is well illustrated by the cartoon herewith, from the pen of Art Espey of the Elmira Fire Department.

Whitewater, Wis., Has New Truck—The arrival in Whitewater, Wis., of its recently purchased fire truck and pumper, creates a feeling of security on the part of the citizens.

I. A. F. E. DIRECTORS MEET; LAY OUT CONVENTION PROGRAM

At New Orleans Meeting Assign Topics for Discussion at Annual Gathering— Suggestions from Jay Stevens in Letter

THE board of directors of the International Association of Fire Engineers held a meeting at New Orleans on April 8 with Chief Armstrong of Kingston, Ont., presiding. In attendance at the meeting were Chiefs Armstrong, Kingston, Ont.; Davis, Philadelphia; Mulcahey, Yonkers, N. Y.; Johnson, Waltham, Mass.; Wray, El Paso, Tex.; Chief Daley of Brockton, Mass., chairman of the exhibit committee; Chief Evans of New Orleans, Mayor O'Keefe and his official cabinet.

A suggestion was made by Chief Armstrong that a member be sent to Washington, D. C., to represent the association at the proposed fire congress. It was unanimously agreed that Chief Wray, of El Paso, be sent to Washington as a delegate.

Chief Evans stated that he had assurance from many chiefs who never attended the convention that they would attend the coming gathering. The exhibit hall which was proposed at the last meeting with him in December is now being razed. He suggested another and urged the members to inspect it and see if it meets with their requirements.

New Exhibit Hall Arranged

An inspection was made of the coliseum on St. Louis Roma avenue which had approximately 20,000 sq. ft. area. It is some distance from the convention headquarters but arrangements will be made for bus service to and from the two places.

The New England Fire Chiefs' Association, through George F. Cobb, their traffic manager, extended an invitation to attend their annual convention to be held at Manchester, N. H., on June 22–24. The invitation was accepted with thanks. Mr. Cobb was appointed traffic manager to act with the secretary in the arrangement of railroad rates for transportation to the convention.

The president was very much in favor of the plan to eliminate all entertainment features during the day, and that the sessions should be called promptly on time should there be a quorum of twenty members.

It was agreed that there be morning and afternoon sessions from Tuesday to Thursday and that there be a session on Friday morning.

Jay Stevens Unable to Attend

A letter was read from Jay W. Stevens, chief of the Bureau of Fire Prevention, who is actively engaged in assisting in the making of the new fire picture. He expressed his regrets at not being able to attend and wrote:

"I ran up from the studios last night, reaching the office this morning with the expectation of attending the meeting. If I did so, this would take me away from the studio during the most critical period. They are still making changes to round out the picture before starting the actual 'shooting' the middle of the week. We can not afford to delay them, nor fail to give the fullest cooperation at this stage of the game, for we would all be criticized.

"According to your wire, and letter, you will have an adjourned session in New York during May. The picture will probably not be entirely finished, but enough so you can get a good idea of it on the screen. Mr. Mayer has promised to bring this with him on his visit to New York the latter part of April and the first part of May.

"I have insured the Louis B. Mayer cups. As these will be floating around the country from city to city for the purpose of being exhibited, and as their value runs in the thousands of dollars, I thought it poor business to take chances on losing one of them.

"The following should be considered by the board:

"A paid secretary or assistant secretary, if that is decided.

"Taking some action in regard to the organization of a definite Fire Prevention program, seeking to involve the various agencies now at work and attempt to get the cooperation of the Rotary International at their June meeting in Denver, and this will take some real work.

"Working out of a more definite plan of cooperation with the Metro-Goldwyn-Mayer people in connection with the exploitation of the picture.

"In the matter of program this should center around the bringing of some national or international figure."

Motion was carried that an attempt be made to have Jay Stevens attend the meeting of the Rotary International at Denver. Committee of Chiefs Johnson and Davis and Mr. Cobb appointed to seek to obtain Secretary Hoover as a speaker.

Chief Davis reported action of the N. F. P. A. relative to

(*Continued on page* 412)

QUESTIONS AND ANSWERS

Conducted by FRED SHEPPERD, B. Sc., M. E.

"He that questioneth much shall learn much"—BACON

NOTE—Readers of FIRE ENGINEERING are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified.

Static Pressure Aids the Engine

To the Editor:

Below is a question which I wish you would answer at your earliest convenience.

The problem in question, or rather the method employed in solving it, is in dispute, and the accompanying explanation, I hope, will clarify the complexing situation.

The idea presented here is that an engine is located on a bridge, having dropped a line down to a fire 100 feet below. The total stretch consists of two lengths on the ground leading from the engine to the bridge; two vertical sections to the ground at the level of the fire, and two lengths on the ground to the fire, making a total of six lengths all told.

The entire question hinges around a method of solving at, and having as many methods as a fly has legs, we are therefore in a quandry as to which is right.

One man (X) says that the 43 pounds developed by gravity is added to the nozzle pressure after finding the original nozzle pressure, and he was nearly mobbed, while another man (Y) said that after figuring a straight stretch and finding the nozzle pressure, the gravity pressure, 43 pounds, is used again as an engine pressure, at the foot of the drop, and whatever pressure is found at the nozzle is then added to the first nozzle pressure found.

Still another man (Z) claims that after solving and finding the nozzle pressure, which is 34 pounds, the friction loss is found in the first 200 feet of hose up to where the gravity pressure begins at the foot of the drop, and after the friction is deducted from the engine pressure, you then add the gravity to the remainder, and solve from here as a new engine pressure; this, however, belies the original discharge of 271 gallons per minute, as this would give a new nozzle pressure of 77 instead of 34, and likewise a corresponding increase in discharge.

The last and final wedge here is claimed by the lieutenant of our company, who states that as long as it is permissible and acceptable to the Civil Service Commission to mark as 100% a candidate who deducts the required elevation from the engine pressure when working this in the upward direction to a height of 100 feet, it is very apparent that when working down an additional engine pressure developed by gravity fall should be added to the engine pressure before solving, and thereby deriving a correct or as nearly correct solution as is possible.

Which of the above is correct?

Sincerely yours,
L. T. F., Feb. 12, 1926.
Brooklyn, N. Y.

Answer: The lieutenant, offering the last solution suggested above, is correct.

To show why he is correct, let us take each of the solutions as offered in their turn.

X states that the 43 pounds developed by gravity is added to the nozzle pressure after finding the original nozzle pressure. This 43 pounds according to X being added to the nozzle pressure increases the discharge of the nozzle pressure by that amount. Increasing the nozzle pressure increases the discharge and also the rate of flow. If it increases the rate of flow then it increases the friction loss too. Note that it increases the friction loss without either decreasing the original nozzle pressure or the 43 pounds added, which is inconsistent. Any pressure which tends to send water through a hose line must take care of any increase in friction loss as well as nozzle pressure increase and cannot merely be assumed as increasing the nozzle pressure without taking care of a proportional part of the friction loss increase.

Thus this solution is inconsistent and cannot be considered.

Y says that after figuring a straight stretch and finding the nozzle pressure, the gravity pressure, 43, is used again as an engine pressure at the foot of the drop and whatever pressure is found at the nozzle is then added to the first nozzle pressure found.

Well, this is a little better than the first one, but still is not correct. While this second method takes care of the increased friction loss due to the increased rate of flow from the foot of the drop to the nozzle, it does not take care of the increased friction from the engine to the foot of the drop. If this additional pressure increases the velocity through the line it must also take care of all increase in friction loss from the engine to the nozzle. But as the method of solution by Y takes care of only the increase in friction from the foot of the drop to the nozzle, the method is not correct, and cannot be considered.

Z claims that after solving and finding the nozzle pressure, which is 34 pounds, the friction loss is found in the first 200 feet of hose up to where the gravity pressure begins at the foot of the drop, and after the friction is deducted from the engine pressure the gravity pressure is added to the remainder and solved from here as a new engine pressure.

Z attempts to correct the error in the first two solutions by taking care of some friction loss from the engine to the point where the water drops. But he does not solve the friction for the full flow but only for the flow as given with a 34-pound nozzle pressure. As soon as the gravity pressure is added to the 34 pounds, or a portion of it is added to the 34 pounds, the discharge is increased and the friction through the entire line is increased. Solving for friction in any portion of the line with the original discharge introduces an inaccuracy which makes the solution incorrect; consequently this solution must be discarded.

The solution as given by the lieutenant is correct. It is the same old story of a freight train with an engine at the rear and an engine at the front. The total pull, or push if you wish to call it such, on the freight train is the sum of the pulling effort of both of the engines together. It makes no difference whether the two engines are at the front of the train or whether one is at the front and one at the back.

The only reason one is placed at the front and one at the back is to reduce the pull on the coupling draw-bar. But the result as far as moving the freight train is concerned is exactly the same.

Now with this problem the engine pressure and the gravity pressure both unite to send the water through the hose against friction loss and create a pressure at the nozzle as well, and they must first be added together before the problem is solved. Adding these two pressures together, namely, the engine pressure and the gravity pressure, a new engine pressure is secured which is applied in the Underwriters' formula for finding nozzle pressure. This addition of pressure must be made before the problem is solved. The solution using the Underwriters' formula for nozzle pressure where engine pressure is known will then give a fairly correct answer—as correct as any formula may make it.

The problem is a very interesting one and brings out many points of value. It is hoped that the above explanation will clear up these points in the minds of the various men who offered solutions to it.

Spontaneous Ignition

To the Editor:

Will you please settle an argument in an early issue of your magazine:

(A) Contends that soft coal, if stored in a dry condition where no moisture can get to it, is not subject to spontaneous ignition.

(B) Contends that if the same is piled around wooden posts it is subject to spontaneous ignition.

Which is correct?

Cordially yours,
E. C. M., Santa Monica, Cal.
Jan. 5, 1926.

Answer: Before giving a direct answer to the question the following statement should be noted. Soft (bituminous) coal is subject to spontaneous ignition if piled in deep piles but so piled that air can get to it.

This coal is subject to spontaneous ignition in proportion to its dampness up to a certain degree. If the coal is fairly damp, spontaneous ignition takes place quite readily whereas if it is

thoroughly dried, there is little liklihood of spontaneous ignition.

But most soft coals contain within themselves sufficient moisture to cause spontaneous ignition even though they are not in an apparently dampened condition. On the other hand if the coal is not piled deep, it is not likely to take fire. It takes considerable time for the coal to become heated through chemical action incidental to spontaneous ignition, and the heat is radiated through the atmosphere as fast as it is generated with the result that the temperature never reaches the point of ignition of the coal.

Wooden uprights placed in piles of bituminous coal do increase the liklihood of spontaneous ignition through the tendency of such uprights to permit air to get to the coal at the bottom of the pile.

Now to answer the question direct. A is not entirely correct unless he infers that the coal is thoroughly dried, and contains appreciably no moisture within itself.

Also, he is not correct unless piles of sufficient depth are implied.

(B) is not correct unless the coal is of sufficient depth to retain the heat generated; B is also incorrect unless there is some moisture in the coal.

Pumpers Operating in Relay

To the Editor:

Your answer to the following will be greatly appreciated by members of this company:

Question: With a stretch of 4,800 feet of hose, two pumpers, one four- and one six-cylinder, pumping from a 12-inch main, which of the pumpers would it be better to place at the hydrant? The other pumper being placed at the center of the line.

Very truly yours,
Members, Fire Station No. 18,
Fort Worth, Texas.

Answer. First, we will assume that there is pressure in the main, which is a logical assumption.

Second, we will assume that you have placed one pumper directly in the center of the line, that is, receiving its supply through 2,400 feet of hose and discharging through 2,400 feet of hose.

It will be further assumed that the six-cylinder motor will have more power than the four-cylinder, which is a logical assumption. Under these assumptions the larger size pump—that is the pump operated by the six-cylinder motor—will be placed at the center of the line and the smaller pumper placed at the hydrant.

Here's the reason: It will require more pressure on the part of the second engine to deliver a fire stream than it will on the part of the first engine to furnish the supply to the second engine (first engine being placed at the hydrant and second engine being placed at center of line).

All the first engine will have to do will be to take the water from the main which is fed to it under pressure and force it to the second engine at sufficient pressure to keep the second engine supplied. Second engine will, on the other hand, have to take the water delivered to it and force it through a corresponding length of hose (2,400 feet) and in addition to overcoming the friction in the hose will have to create a nozzle pressure at the nozzle sufficient to give a satisfactory stream.

Suppose this pressure is only 50 pounds. Then the second engine will have to deliver 50 pounds more pressure at its outlet than will the first engine.

No account has so far been taken of the hydrant pressure. But every pound pressure on the hydrant means just one pound less pressure created by the engine taking water from it. It means a reduction in load on the first engine. Of course, the first engine may deliver the water to the second engine at a pressure which would leave a margin for assisting the second engine. However, the problem does not make such specification and such is not considered.

Caged Beasts Die in N. Y. Fire

The terrors and cries of jungle life were transformed for a while to New York City when the department was called to extinguish a fire in the second floor of a Cortlandt street building which housed "Bartels' House of Pets."

Adding in excitement to the work of the firemen were the cries of 150 monkeys, the chatterings of many parrots, the death notes of 4,000 canaries, the cawing of the macaws and the terrorized swishing of several boa constrictors.

The fire itself was of no consequence—the flames barely scorched the cages. However the smoked strangled the birds and animals and they fell dead in their cages as though stricken by some pestilence. Here is a story which originates from the fire sworn to by some newspaper reporters, which may or may not be taken at its face value.

Jocko, a baboon, smelled the smoke and looked around for his playmate, Mimi, a tiny black kitten. The story states that the baboon broke through the bars of the cage and led the kitten down the stairs to safety. Neither the kitten nor the baboon could be found to verify the reporters' statement.

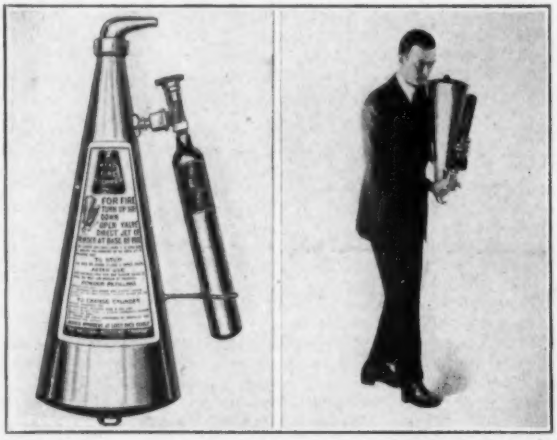
Signs of a Clear Passage

In Boston, Mass., in order that the firemen can tell at night as well as in the day time, where a clear passage is through large buildings, the fire department is having crosses pasted on the windows. The firemen know that by placing their ladders up against such windows, they will have a clear passage once inside of the building. At present one can walk along State street and count more than twenty crosses.

New Form of Dry Powder Extinguisher

A fire extinguisher is being marketed by a Chicago firm which consists essentially of a cone filled with some kind of salts, and a cylinder connected to it, which contains carbonic gas.

In operation, the cone is inverted and the valve controlling the gas in the cylinder is opened. The carbonic gas in the cylinder flows into the cone filled with the powder and it produces a cyclonic effect. The powder is forced out of the cone and is decomposed by the heat of the flame into carbonic acid gas and steam which blanket the fire. The cone contains seventeen pounds of powder, and it is claimed that this extinguisher is effective from a distance of twenty-five feet.



Left—Dry Type of Extinguisher. Right—Proper Way to Hold Extinguisher When in Use.

Amdyco Company Expanding

The Amdyco Corporation, manufacturers of Amdyco Foam Powder and Amdyco Foam Generators, have just completed a new addition to their foam plant at Chester. New equipment has been installed which now gives the company a greatly augmented capacity. When the new addition is fully in operation the company will be able to take care of all orders received without delay.

N. Y. Fire College Opens

The New York Fire College commenced April 12, its fifteenth year of operation. The courses which are being given in an unused fire station will be continued until the college closes on June 16 for the summer recess. Classes are held four times a week.

The opening address was made by Chief John Kenlon who admonished the men that the courses were not being given for their promotion, but so that they might disseminate the information to the men under them. The faculty consists of Deputy Chiefs Thomas F. Dougherty, Edward J. Worth, John Davin, John J. T. Waldron, Richard J. Marshall, Henry B. Helm, Battalion Chief Charles W. Rankin and Inspector Leo Lieberman of the fire prevention bureau.

Volunteers Afraid of Punishment? Well, Just Look at the Long Branch Fireman Taking It at the Top of the Ladder.

BIG FURNITURE FACTORY FIRE WELL HANDLED BY VOLUNTEER DEPT.

Long Branch, N. J., Has Large Blaze in Congested Mercantile District—Fire Confined to Building

THE fire-fighting abilities of the volunteer fire department of Long Branch, N. J., under the command of Chief Bomby R. Mascutello, was taxed to the utmost in a two-alarm fire which occurred in the three-story building of the Seacoast Furniture Company, on the afternoon of March 15, from an unknown cause. Besides the structure destroyed, the building of the Citizens National Bank on the west and that of the *Daily Record* on the east were badly damaged by water and smoke, and the rear of the *Record* was also scorched by fire on three floors.

Chief B. R. Mascutello, Long Beach, N. J.

While undetermined, the cause of the fire is supposed to have been a match or cigarette thrown upon an accumulation of waste paper in an alley in the rear of the Seacoast Furniture Building, as that is where the policeman who discovered the fire first found the flames. While the front portion of the structure was of brick, the rear was built of frame and made an easy prey to the extension of the fire. The first alarm was a house call by this officer to the Independent Fire Company, but, seeing that the flames were rapidly spreading into the building, he followed this by an alarm sent in from box 33.

As soon as Chief Mascutello arrived, seeing the serious conditions, he at once sent in a general alarm, bringing into service practically the entire fire department of Long Branch, there being 45 men employed in fighting the blaze. The apparatus consisted of three Ahrens-Fox pumpers, one American-LaFrance aerial, two Mack hose cars, one Mack service truck, one American-LaFrance and one White combination chemical and hose, one American-LaFrance and one Lozier hose car. Six 6-inch single hydrants were used, about 750 feet apart, with a water pressure of ten pounds. Nine engine streams were thrown with nozzles of 1 and 1″ and 1¼″, with water mains of 8″. Some 6,500 feet of hose were laid, of which seven lengths burst during the fire. The department also used gas masks, roof cutters, wire cutters, and door openers in the fire-fighting.

The stock of the furniture company included a quantity of linoleum, which, together with the varnish, furniture polish and other inflammable liquids, increased the intensity of the flames.

The fire started at 2:07 p. m., and burned for five hours and 30 minutes. There were some tenants in the rear of the building, but these all escaped safely, with the aid of the firemen. Outside of one of the men of the fire department being cut by falling glass, there were no casualties either among the men or tenants of the building on fire.

Big Furniture Factory Blaze in Congested Business District of Long Branch, N. J., in Which Building was Destroyed.

TWO THREE-ALARM FIRES KEEP CAMBRIDGE DEPARTMENT OCCUPIED

Morse Nozzle Used With Good Effect at Big Cambridge Square Blaze—Large Signboard Increases Hazards of Fire

HEAVY damage was caused by a 3-alarm fire on Massachusetts Avenue, near Lafayette Square, Cambridge, Mass. The blaze was fought by the Cambridge firemen under direction of Chief James M. Casey; a feature was the effective use of a heavy stream from a Morse ladder pipe which functioned as a water tower.

The first alarm was received from the corner of Brookline and Green Streets, a few seconds after the fire apparatus from the station in Lafayette Square had responded to a still alarm. A short time later a third alarm was ordered, the second alarm being skipped.

The fire originated from an unknown cause in the rear of the second floor and spread rapidly through walls and partitions, mushrooming on the top floor which had dormer windows and a slate roof.

The building was of frame construction with stores on the first floor and offices and apartments on the upper floors. The

Upper—Fighting 3-Alarm Fire in Building near Lafayette Sq., Cambridge, Mass. Lower—Large Electric Sign on Old Structure Adds Hazard to Fire-Fighting

flames worked into two stores at the north end of the building and raged fiercely in the upper sections, completely burning away a large portion of the top floor and roof.

Occupants of the ground floor were The Gray Shoppe, White Haberdashery, Riverside Hardware Company, and the Modern Shoe Store. On the second floor were the dental office of Dr. L. D. White and the photographic studio of Adrean. Apartments occupied the top floor. There was a rear extension containing a store room and woodworking plant.

Two aerial ladder trucks were used in front of the building, the 85 ft. extension ladder of Hook and Ladder 3 with its Morse pipe being used as a watertower and maneuvered so effectively that Chief Casey exclaimed "A tower hasn't got anything on that for efficiency." The other extension ladder was placed against the building and a line carried up it. Lines were also taken over stairways and over adjoining buildings in the rear. An Eastman deluge set and several street lines were used.

Chief Casey was assisted in directing the firemen by Deputy Chiefs Albert R. Wait and Cutler Vose. The apparatus in service consisted of one 1000-gallon American-LaFrance motor pumping engine, three 750-gallon American-LaFrance pumpers, one tractor drawn Amoskeag steam fire engine, two American-LaFrance aerial trucks, and a number of combination chemical and hose cars. The nozzle on the ladder pipe was 1½ inches and the nozzles on the lines were 1¼ and 1⅛ inches.

Automobile and street car traffic was blocked for three hours while a large crowd witnessed the work of the firemen. Extra details of police were called out. Fireman David J. Ryan was taken to the Cambridge Relief Hospital after being struck by a falling timber while at work inside the building. Several other firemen narrowly escaped injury when a section of the roof and upper story collapsed. The damage was estimated at from $75,000 to $100,000.

The fire department of Cambridge, Mass., under Chief James M. Casey fought a stubborn 3-alarm fire in the Central Block, an old four story structure in Central Square, on the morning of March 26. The blaze started in the cellar and spread upward between walls and partitions, finally mushrooming under the high, slanting cockloft beneath a slate covered roof. A huge advertising signboard on the roof threatened to fall when the flames swept upward, but remained in place although as a precaution apparatus was moved away from in front of the building.

Aerial ladders were placed in position on Massachusetts Avenue and in Central Square. A line of hose was played into the upper part of the building from the ladder on the avenue side and lines were also taken over stairways and to the roof over adjoining buildings.

The fire was a very smoky one and the flames were difficult to reach. The building was occupied by retail stores on the ground floor and by offices and a business college on the upper floors. All the occupants made their way to the street safely when the blaze was discovered. Several firemen suffered minor injuries. A large crowd collected to watch the firemen at work. The damage due to fire, smoke, and water was estimated at $100,000.

The apparatus in service included one tractor drawn steam fire engine, two American-LaFrance aerial ladder trucks, a 1000-gallon American-LaFrance motor pumper and three 750-gallon American-LaFrance pumpers. Deputy Chief Cutler L. Vose assisted Chief Casey in directing operations.

HARRY BELKNAP.

Reading, Pa., Against Paid Force

The Firemen's Union, the central body of the firemen of Reading, Pa., are making plans for a fight against the suggested plan of having a paid fire department.

The firemen, who constitute probably the strongest political organization in the city, present a united front in opposing a paid fire department, and no local forecaster thus far seems inclined to risk his reputation by predicting that the movement for a paid department will be successfully carried through. Office-holders know, they declare, that any one favoring a paid department and making any move toward its materialization, is signing his death warrant politically so far as the city of Reading is concerned.

The volunteer fire department is the largest one in the country and no city official has taken the initiative of investigating just why the volunteers are opposed to institution of a paid fire department.

Each company, of which there are fourteen, has its own social club. Almost all of them have beautiful clubhouses and the great majority of the members spend all their leisure hours at these homes. Thus a strong bond of friendship has sprung up between the members, and the guessers have it that, rather than wreck their social clubs, they will fight a paid department.

No one blames the firemen very much. Observers point out how the social organizations help maintain a high morale among the members, and that competition between companies has resulted in determined firemen, who fight fire for the sheer joy of competition and with the determination to do a better job than a neighboring company. With such keen rivalry, they declare, much better work can be done than would result if men, paid to do the work, would be employed

WHAT'S BURNING

From reports covering the United States and Canada, the estimated losses by fire during the week ending April 9, 1926, aggregated $20,013,500, as compared with $8,372,100 for the corresponding week in 1925. The total is derived by adding to the amount in the list given, which includes only those of $25,000 loss and over a sum equal to thirty per cent of that amount, statistics showing that the smaller fires average about that proportion of the larger. Losses for the week ending April 16, follow in their right order.

The figures published in this list, compiled from telegraphic reports of fires occurring during the weeks, are based on estimates made at the time, which are necessarily hurried and are subject to latter investigation and consequent correction. Taken as a whole, however, they give an approximately correct view of the losses incurred. The figures represent loss in thousands.

PATERSON, N. J.—Grobart Harmony & Industrial Silk Mills. 35
FAYETTE, MISS.—The F. Krauss Store and adjoining establishments 200
TONAWANDA, N. Y.—Garage of J. A. Misner 25
HULL, QUEBEC.—Planing mill property of Joseph Pilon 30
MEADOW VIEW, VA.—Several business houses damaged 90
NORFOLK, VA.—Plant of Norfolk Tallow Company destroyed 45
DOTHAN, ALA.—Warehouse of Sandwich Compress Company destroyed 300
MALVERN, ARK.—Planing Mill of Wisconsin-Arkansas Lumber Company 65
AUGUSTA, Ga.—Business district damaged 190
ROCKFORD, ILL.—Plant and warehouse of J. W. Miller Company 135
GUTHERIE CENTER, IOWA.—First National Bank Building 40
OSKALOOSA, IOWA.—Distributing plant of Standard Oil Company 30
WEST VAN LEAR, KY.—Smith Wholesale Furniture Company 65
OLD ORCHARD, ME.—Four cottages and rooming house destroyed 40
OMAHA, NEBR.—Mason Terrace Apartments, 2915 Mason St. 25
PHILADELPHIA, PA.—Home of Joseph M. Wynn, destroyed 90
THETFORD MINES, QUEBEC.—Central Hotel 25
SHEBOYGAN, WISC.—Property of Inland Furniture Company. 65
PITCAIRN, PA.—Pennsylvania R. R. Shops destroyed 450
CHARLOTTE, N. C.—Building of Western Newspaper Union destroyed 100
LOCKPORT, N. Y.—Frame building containing 22 automobiles. 70
LOS ANGELES, CALIF.—Building at 141 S. Main Street 90
HOBOKEN, N. J.—Plant of John Focht & Sons 40
PHILADELPHIA, PA.—Williams, Brown & Earle Building, Chestnut Street 250
BROOKLYN, N. Y.—Factory of Lambrosa & Company, Carroll Street 90
LOS ANGELES, CALIF.—Plant of Acme Bedding Company 85
CHICAGO, ILL.—Lees Building, 19 South Walls Street 25
HOBOKEN, N. J.—Warehouse of W. Wornecke Company, 405 Second St. 60
MARKHAM, PA.—Barn on farm of Samuel Hill destroyed 25
CAMPBELL'S BAY, QUEBEC.—Mill of Campbell's Bay Milling Company 25
MEMPHIS, TENN.—Gold Press Cottonseed Oil Mill 85
Veneer Mill of James Starke & Company 85
ATLANTA, GA.—Building occupied by Dufee Furniture Company 50
JOLIET, ILL.—Plant of American Ice Cream & Bakery Company 25
HOOPESTON, ILL.—Building owned by J. H. Dyer (commercial) 85
FORT WAYNE, ILL.—Refrigerator plant of Wilkins Brothers 25
ANAMESA, IOWA.—St. Patrick's Catholic Church destroyed 40
HAMMOND, LA.—Property of Hammond Lumber Company 40
REVERE, MASS.—Buildings at Shirley and Walnut Streets 25
NORTHFIELD, MINN.—Barn on Carleton College Dairy Farm destroyed 30
FRONT ROYAL, VA.—Plant of Limeton Lime Company destroyed 30
ATTLEBORO, MASS.—Pilgrim Unitarian Church partially destroyed 85
LEXINGTON, KY.—Ahlers & Gregoire Brass Plant 25
VASSAR, MICH.—Garage owned by Edward Humes destroyed 25
KELLETTVILLE, PA.—Two story school building 25
JEROME, ARIZ.—Five two-story dwellings destroyed 25
PATERSON, N. J.—Adams Mill, Van Houten Street 35
BRUNSWICK, OHIO.—Garage and two dwellings destroyed 45
CHILOQUIN, OREG.—Mill of Chiloquin Lumber Company 85
NEW BIRMINGHAM, TEXAS.—Southern Hotel destroyed 40
HAMILTON, N. Y.—Gymnasium at Colgate University 135
TACOMA, WASH.—Property of Dempsey Lumber Company 40
CHICAGO, ILL.—Garage at 3916 West 16th Street destroyed 50
BELLAIRE, OHIO.—Bakery and adjoining property 40
BISHOP, PA.—General store and dwellings destroyed 45
PHILADELPHIA, PA.—Garage at 1310 Fifth Street (north) 135
CHICAGO, ILL.—Building at 22 South State Street 125
LANCASTER, PENNA.—Engleside Garage, owned by Louis Engle 30
YORK, PENNA.—Barn owned by Alan Harr and two adjacent garages 30
WINNIPEG, MAN.—Two floors of Lindsay Building damaged 30
ST. JO, TEXAS.—Five business establishments destroyed 25
CHESTER, PENNA.—Office and apartment building 65
WARE, MASS.—Kaplan Block 40
NORTHFIELD, VT.—Odd Fellows' Block 60
BEAUMONT, TEXAS—Josey Miller Grain Company elevator 65
NEW RICHMOND, WIS.—Ideal Store and adjoining cafe 30
EAST WOONSOCKET, R. I.—Barn owned by W. H. Whipple destroyed 40
CALGARY, ALBERTA—Banff Springs Hotel 2000
SAN LUIS OBISPO, CALIF.—Reservoirs of Union Oil Company 8000
MOMINEETOWN, OHIO—St. Ignatius Church and School destroyed 70
PIKE, N. H.—Four buildings destroyed 100
ELIZABETH, N. J.—Building occupied by Fricke Furniture Co. 200
MEREDITH, N. H.—Home of H. B. Rust, Lake Winnepesaukee 25
GAS CITY, IND.—Gas City Merchantile Company 25
BLOOMING PRAIRIE, MINN.—Wiger Building destroyed 40
WILLIAMSVILLE, MO.—Three barns owned by Walter Holliday 25
MONTO, N. B.—Several business establishments and residence 30
NASONVILLE, R. I.—St. Theresa Church and School destroyed 65

The following list of fires was omitted from the record for the week ended April 2, 1926, in last week's issue:

HINCKLEY, ILL.—Methodist Church partially destroyed 25
BETTENDORF, ILL.—Houlihan Building, State & Main St. 15
FAIRMOUNT, IND.—Factory of Superior Paper Products Company 50
CARSONVILLE, MICH.—Feed and storage barns of Alex Gibbard 15
OMAHA, NEBR.—Home of Chas. H. Voorhees, 3719 Marcy Street 20
INDIANA, PENNA.—Moose Temple and Graff Building 35
TIMMONSVILLE, S. C.—Two tobacco warehouses and adjoining buildings 55
AIKEN, S. C.—Cottage owned by Thomas Hitchcock of New York 20
UNION, S. C.—Ice plant of Consolidated Ice & Fuel Company 65
PEARISBURG, VA.—Two business establishments and church 35
PHILADELPHIA, PA.—Garage and contents owned by I. Cohen, 5th St. 190
WEST VAN LEAR, KY.—W. L. Smith Furniture Company 35
CONCORD, N. H.—Aquilla Block 50
COUDERSPORT, PENNA.—Two frame structures destroyed 55
CHICAGO, ILL.—Building occupied by Illinois Naval Reserve 20
MILLBURY, MASS.—Storehouse of A. D. Windle Company 65
READING, PENNA.—Plant of Keyser Fry Estate 90
MOUNT POCONO, PA.—Meadowside Inn destroyed 90
BALTIMORE, MD.—Building owned by F. J. Kunkel, Lee Street 35
GLENSIDE, PA.—Barn owned by A. P. Nagel, East Oreland 20
CAMBRIDGE, MASS.—Building occupied by business college 90
LOS ANGELES, CALIF.—Metro Studio 100
PORTLAND, OREG.—Oregon Box & Lumber Company destroyed 200
WOONSOCKET, R. I.—Rectory of the Church of Precious Blood 50

From reports covering the United States and Canada, the estimated losses by fire in the week ended April 16, 1926, aggregated $7,169,500, as compared with $4,105,200 for the corresponding week in 1925:

JEANETTE, PA.—Several buildings at Division and Fourth streets 25
VINELAND, N. J.—Buildings in business section 85
MERIDIAN, MISS.—Grain elevator of Sturges Company destroyed 85
MONTGOMERY, ALA.—Two business establishments destroyed 40
CHAFFEE, N. D.—Flath's general store and Cizek hardware store 25
RALEIGH, N. C.—Wing of State Hospital for Insane destroyed 480
LIBERTY, N. Y.—Liberty House, a hotel building 85
ASBURY PARK, N. J.—Main Street Theatre destroyed 180
EAST HARTFORD, CONN.—Warehouse occupied by East Hartford Tobacco Growers, Inc., destroyed 500
STATESVILLE, N. C.—Hutton Bourbonneas Company, Diamond Hill 40
COUDERSPORT, PA.—Two business establishments, Main street 25

(*Continued on page* 412)

A Foam Test in New Jersey

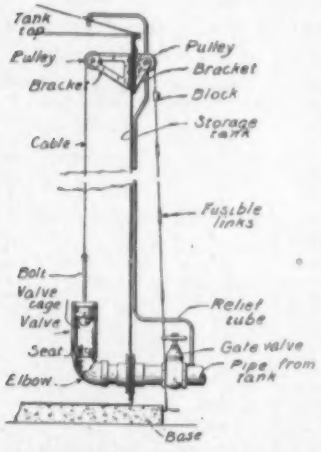
Several hundred gallons of gasoline and oil ablaze in test of Amdyco Foam Generator and Foam Powder, at the foot of Sixteenth Street, Weehawken, N. J. The foam extinguished the fire with remarkable speed.

Recent Patents

Descriptions of Patents Recently Issued of Interest to Fire Departments—Emergency Valve for Storage Tank—Sprinkler

Emergency Valve for Storage-Tank

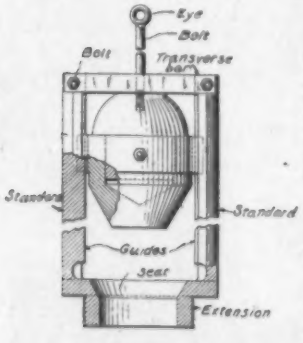
An emergency valve to be used in connection with combustible liquids to eliminate fire hazards has been designed by (Patent No. 1,573,938) Bronson B. Telley and Vincent M. Henrieta of San Francisco, Cal. While the valve is a means of fire protection, an emergency mechanism is provided so that dependence is not placed on one valve alone.



A pipe from the storage tank extends through the side of the tank at the bottom and is connected with it by means of a flange and nipple. The pipe is turned upward by an elbow and is equipped with the valve cage of the emergency device. There is the usual gate provided as an accessory. The valve is located on the pipe outside of the tank.

The invention makes it possible to equip the tank with an internal valve that may be automatically operated to close through the medium of a fusible element when fire is in the vicinity of the tank. The valve is suspended in the valve cage above the seat by means of the cable which is anchored at the base of the tank. At various places in the cable, there is placed a number of fusible link elements. When these fuse, the cable is released and the valve automatically is released to make contact with its seat.

The valve cage is shown partly in section and partly in elevation. The valve cage consists of a pair of diametrically opposite standards, the lower extremities are integral with the seat and a threaded extension is provided for upturned elbow of the pipe. At the upper end, the standards are joined by a pair of transverse bars with bolts. The inside surface of the standards form guides which confine the valve in the cage. The valve has sufficient weight to function properly when released.



At the top of the valve is a bolt having an eye at the top for attaching the cable. The cable extends over a pulley on the left which is secured by a bracket, through the tank wall and then over another pulley on right and down to the base where it is fastened.

In order to prevent the cable from slipping into the tank when the same should part due to an accident to the fused element, a block is provided ahead of the pulley at right. The block will arrest the travel of the cable.

Pipe lines are subject to expansion, and in order to protect them from excessive pressures, a relief tube is provided which is connected with the pipe in front of the gate valve—the opposite end terminates inside of the tank at the top.

Sprinkler System

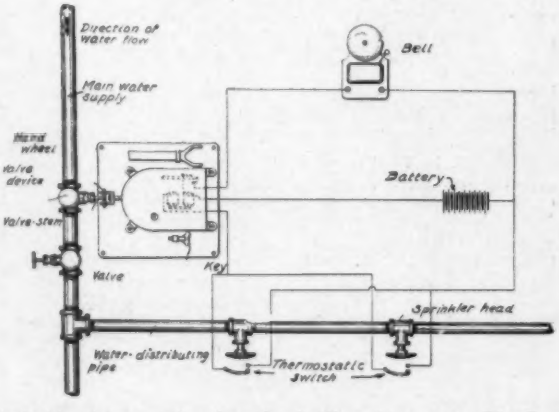
A patent (No. 1,539,667) has been granted to Tomasz Halagarda of Omaha, Neb., for certain improvements in the operation of sprinkler systems. The object of this design is to provide for a system whereby the flow of water in the mains are normally cut off but operated in case of fire.

In the diagrammatic illustration of the patent, a main water supply main is shown which supplies a water distributing pipe on which are mounted several sprinkler heads. The heads may be the kind which have an element which fuses when the temperature reaches a predetermined point.

In the operation of the system, the water is supposed to enter the main water supply and flow in the direction of the arrow; at a predetermined point, there is a valve casing in which is mounted a valve member provided with a valve stem. A mechanism is provided with a mechanical motor for rotating the valve stem so as to open the valve, and an electro-magnet release for permitting the operation of the motor. A forked head is mounted on the shaft and the arms of this pass through the hand wheel. The shaft may be extended and provided with a squared end for engagement with a suitable key for rewinding the spring in the mechanism. A valve is provided in the main water supply main so as to permit repairs upon the sprinkler heads without disturbing the valve device.

There is an electro-magnet for attracting a device which will release the spring and start the shaft rotating. There is a great deal of mechanical refinement in the device for operating the electro-magnet and releasing the spring mechanism—this is not illustrated very well in the diagrammatic drawing.

Should a fire originate in a place where this device is installed, the sprinkler heads will be fused and the thermostatic switches will also be actuated by the heat so that the movable contacts will close the circuit and cause the armature of the magnet to swing into contact making a closed circuit and sending the alarm into headquarters. At the same time, the spring is released and the forked head for opening the valve is allowed to rotate. The flow of water will continue until the thermostatic switches are automatically returned to its normal closed position or the water may be cut off by the manipulation of the hand valve.



This is a dry system device, and there is no possibility of distributing pipes freezing and bursting water mains.

Lakewood, O., Meets With Builders

In establishing a plan whereby Chief Joseph H. Speddy, as chief of the fire department of Lakewood, Ohio, will check over the plans for proposed buildings, the city officials believe that they have established a precedent in the state of Ohio. Strict compliance with the fire prevention code will be the result of this move.

Chief Speddy as assistant state fire marshal is an authority on the state code and will meet with the architects and builders, several hours a day. He stated that a number of the large fire losses may be attributed to contractors who have violated the city's code provisions. The most common is the one whereby the residence is changed from one housing two families to one that will accommodate three families. By this alteration, the house is classed as a tenement building and must abide by new building rules.

The Mayor stated that no building could be built in the city without the signature of the chief of the fire department appearing on every plan for which a perimt is issued.

Garland, Tex., to Install Siren—The city is testing out several makes of sirens prior to installation.

OF INTEREST TO VOLUNTEER FIRE DEPARTMENTS

An Alert Volunteer Department

Perhaps one of the most prominent and also progressive volunteer fire fighting organizations in the state of Connecticut is the Sound Beach Fire Department located in the town of Sound Beach, Conn. This department, under the capable leadership of Chief Frank R. Gisborne and Assistant Chief Stuart M. Potter, owns and maintains all its apparatus, equipment and fire alarm system. The revenue for this purpose is derived from the town's annual carnival which is held annually and attracts visitors from all parts of southern New England. The Sound Beach department gives protection to that part of the town of Greenwich which lies between the Mianus River and the Stamford town line. The Sound Beach department was organized on April 29, 1904 with fifteen active members. At the present time there are sixty members, the limit allowed by the department's by-laws. On November 13, 1905, a one horse hose wagon was purchased from the American-LaFrance Fire Engine Company and later two pumpers were added to this equipment. On May 15, 1914, a Velie Combination Truck and Hose Wagon was put into service which has 1,500 feet of 2½ inch hose, two 35-gallon chemical tanks, one 40-ft. extension ladder and one 12 ft. ladder.

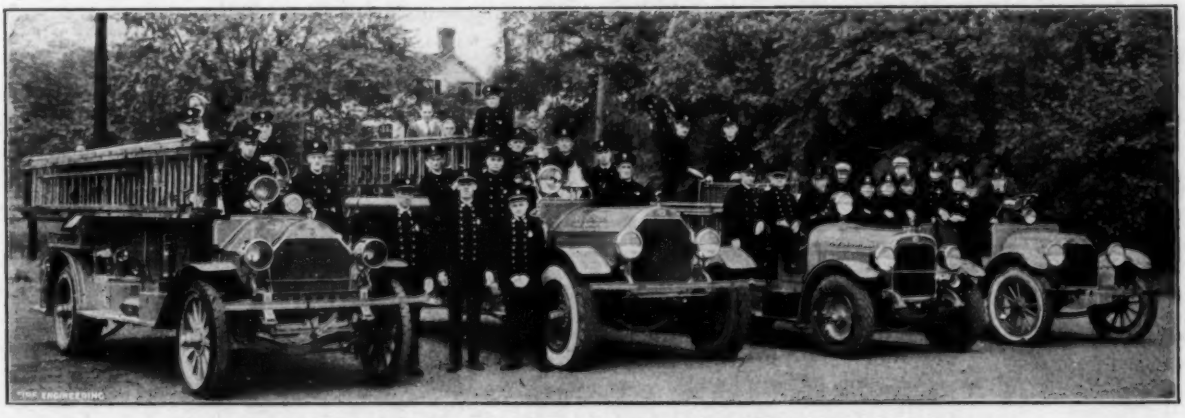
Through funds derived from carnivals and public contributions in 1921, the department purchased a Seagrave 750-gallon, triple combination car with two 40-gallon chemical tanks. Recently another Seagrave 350-gallon triple combination car was purchased. There is also a squad car built on a one ton Studebaker chassis.

On February 5, 1914 the department went under a period of reorganization and became the Sound Beach Fire Department with Albert F. Palmer as chief engineer and Frank R. Gisborne as Assistant Chief.

The department was incorporated on March 2, 1916 and on May 10, 1923, Chief Palmer retired and was succeeded by the present heads of the department, Chief Frank R. Gisborne and Stuart M. Potter as assistant chief. At the present time there are 22 street boxes of the Gamewell type installed in the town. The system will soon be enlarged through an order placed with the Gamewell Company for a six-circuit switch board and a four circuit repeater and 72-battery cells. A fund has also been started for the purchase of a new city service truck.

The apparatus in the accompanying illustration are from left to right: Velie Combination; two Seagrave pumpers and the department patrol car.

T. F. MAGNER.



Apparatus and Men of the Sound Beach Fire Department Lined Up in Front of Headquarters

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Los Angeles Schools Taught Fire Prevention—Under direction of the Los Angeles, Cal., fire department the city schools, hospitals and other public institutions are taught how to use and recharge fire extinguishers, and are given practical fire drills. More than 280,000 teachers and pupils are given frequent demonstrations in fire prevention.

Developing Speed at Fires

The writer of this article recently witnessed a volunteer fire department getting into action at a fire and here's about the way they did it:

The chief rolled in with the first company and grabbing a hand search light went into a building to size-up the fire. He was followed by his entire company, none of them carrying appliances. When the chief discovered what he needed, he sent men out for them. In this instance he found a ceiling hook, a claw tool, and a door opener would be required. He ordered men to bring these tools and nearly half of the company rushed out after them, making a wild scramble to locate them on the truck.

An order was given to get a line in operation and the balance of the company rushed out to carry out the order. The line was stretched from the engine which had been placed at a hydrant but not connected up and when the line was supposed to be ready for operation it was discovered that the engineer had returned with the first complement of men sent out for tools and could not be located.

By this time other companies were rolling in and in each case it was almost a repetition of the first company's performance. The captain of each company would proceed at once to the seat of the fire followed by his entire gang, none of them carrying anything but the clothing they had on.

As soon as each and every member found out what was needed inside he would go out under his officer's instructions and bring it in—if he could locate it—and although he usually could in each instance, sometimes it required considerable time to successfully complete his task.

Now compare this performance with that of a large modern, paid fire department.

The first company in to a fire stretches in a line of hose, but does not open it up, while the officer in command of the company immediately proceeds to the seat of the fire and sizes up the situation. If water is needed he has the water right there.

The other men of the company who report with the officer in charge do not do so empty handed, but carry with them axes, claw tools, or equipment likely to be necessary in the particular fire.

When the officer gets into the building if there is any tool he requires it is likely to be right at hand. Or if he requires a stream of water, the water is right ready for him to say the word.

And that is why the large department can, and do, catch their fires so much quicker than the volunteer departments.

There is no time lost in going back for tools.

There is no time lost in getting the engine in operation when water is needed.

Rather than going into a building and seeing thereafter that a stream of water is needed, it is assumed that water will be needed at once and the line is laid in accordingly.

If the water is not needed, then the work of laying the line,

while actually unnecesarry, is good practice for the men and represents no loss of time nor money to the department.

The way you can build up speed and efficiency in your company is to assign every man to a tool.

Or assign two men to each tool if there are enough men. Then in the event that any of the men do not show up you will still have enough to handle the necessary appliances and have them on the job as fast as they are required.

Each man should be given complete instructions as to what part of the work he is to perform at a fire so that confusion will be avoided and speed attained in operating at fires.

Let each man know exactly what is expected of him and see that he does his duty. Stretch in your line when you go into the building so that if water is needed it will be had instantly.

If likely to be a fire that can be handled by chemicals, have the men who are assigned to chemical extinguishers right on hand with their extinguishers.

Or if the fire is a fast spreading one and requires additional help, then be sure you have men who are acquainted with sending in calls for additional help to transmit such calls.

What's Burning

(*Continued from page* 409)

COUDERSPORT, PA.—Two business establishments, Main street 25
ELIZABETHTOWN, N. C.—Plant of Ricks Lumber & Box Company 25
KEWANEE, ILL.—Residence of Guy Stetson destroyed..... 25
LOUISVILLE, KY.—Property of Food & Salt Company destroyed 30
MILTON JUNCTION, WISC.—Three business establishments.. 25
LAGRANGE, WYO.—General store destroyed..... 25
SWEDESBORO, N. J.—Warehouse of Swedesboro Supply Company 150
ELKTON, MD.—Howard Hotel and Sigman Furniture Store.. 125
PORT HENRY, N. Y.—Windsor Hotel block, Broad Street.... 40
PHILADELPHIA, PA.—Murta, Appleton & Company—hardware establishment 250
NEW ORLEANS, LA.—Oil steamer Silvanus.....1,500
RENTON, PA.—General store and theatre building..... 40
RIGBY, IDAHO.—Business building destroyed..... 85
WILMINGTON, DEL.—Store of Harry Browsky, French St.. 50
SUDBURY, ONT.—Frawley Block destroyed..... 60
JEROME, ARIZ.—Five two story buildings in Mexican quarters. 25
EAST HARTFORD, CONN.—Machine shop of New Haven R. R. 150
SAN FRANCISCO, CAL.—Building occupied by B. J. Baum Co. 150
TARENTUM, PA.—Houston Building and adjoining structures. 25
NAUGATUCK, CONN.—Naugatuck Lumber & Lasher Refrigerator Co. 40
St. JOHNS, N. F.—Mt. Cassell's R. C. Boys' Institute..... 180
FALL RIVER, MASS.—Baptist Temple destroyed..... 85
HOLOPAW, FLA.—Griffin Lumber Mill destroyed..... 200
MELROSE, MASS.—Property of R. H. Russell, Crescent Avenue 25
OXFORD, N. C.—John Penn Hotel destroyed..... 25
EASTON, PENNA.—Eddyside Bathhouse along Delaware River 25
ROSCOE, PA.—Merchandise building and stock of Henry Parkins 40
WILKES-BARRE, PA.—Plant of Wilkes-Barre Fertilizer Company 185
TUPPER LAKE, N. Y.—Canadian Hotel 25
ELIZABETH, N. J.—Old Lyceum Theatre, Dickerson Street.... 185
SWEDESBORO, PA.—Two large warehouses and several adjoining structures 150

I. A. F. E. Directors Meet

(*Continued from page* 404)

distances between underground storage tanks, recommended at their last meeting.

Chief Davis and Chief John Kenlon of New York city were to continue their appointment as made by ex-President Bywater in 1924, and express disapproval of the distances proposed.

Topics Assigned for Discussion

The following suggested topics have been assigned for discussion at the convention:

Improvements in the methods of storage and fire prevention in moving picture films. Assigned to Hickman Price, New York.

Hazards of oil heater, etc., for round table discussion, assigned to Chief Ross B. Davis, Philadelphia, Pa.

Handling of fires in three-story frame tenements, assigned to Chief C. H. McCarthy, Worcester, Mass.

Discipline and maintenance in volunteer fire departments, assigned to Chief Stanley S. Coates, Burlington, Ont.

The passage of adequate laws and the establishment of procedure for apprehending and convicting incendiaries, assigned to Mr. Morgridge of New York, chief of the arson department of the National Board of Fire Underwriters.

Effective fire streams from the various size street mains, assigned to Chief Emrich, Baltimore, Md., and to Frank C. Jordan, secretary of the Indianapolis Water Co.

President Armstrong expressed his intention of extending invitations to fire surgeons, fire insurance patrols and motor apparatus mechanics to meet in sessions and report to the association at its final session such matters as they decide for the interest and betterment of the service.

Other matters will be considered at a special meeting in New York during the month of May.

PROVIDES FOR FIRE ALARM BOXES IN SCHOOLS AND HOSPITALS

All Hospitals of Over Ten Beds in South Carolina Must Have Fire Alarm Boxes Installed—Schools Also Taken Care Of

AN important bill, sponsored by the South Carolina State Firemen's Association, became a law on March 22, through the signature of the governor of the state, T. B. McLeod. This law provides that every hospital with ten beds or more and every public school in the state in cities which have a fire alarm system shall be equipped with a fire alarm box.

As soon as the governor had signed the bill, Chief A. McC. Marsh, chairman of the Association's legislative committee, of Columbia, S. C., at once got Chief Louis Behrens, of Charleston, president, on the long distance telephone, and notified him of the association's victory.

Chief Behrens was greatly elated by the success of the measure, and hailed it as a great step in advance in fire prevention in public institutions.

Schenectady Meeting Place of N. Y. Chiefs

The New York State Association of Fire Chiefs will hold its 20th annual convention at Schenectady, N. Y., on June 16, 17 and 18. The headquarters have been established at the Hotel Van Curler, according to information received from Chief James H. Golden, secretary, Cohoes, N. Y.

The convention, following out the custom of the association in recent years, will be held at the same time as the Conference of Mayors and other city officials of the State of New York, which holds its sessions at Schenectady on the same dates.

The program of the Chiefs' convention, which is now being prepared, will include the names of several prominent fire department officials among the speakers.

Rockland County Firemen Meet

A meeting of the Rockland County Volunteer Firemen's Association was held in the quarters of Brewer Engine Company No. 1 of Monsey, N. Y. Chief Carpenter of that town welcomed the association. The meeting considered the matter of firemen's compensation for injuries received while in the performance of firemanic duties, and also discussed the cooperation of neighboring departments. Ex-Chief Harry Williams of Nyack spoke on methods of collecting the 2% insurance tax.

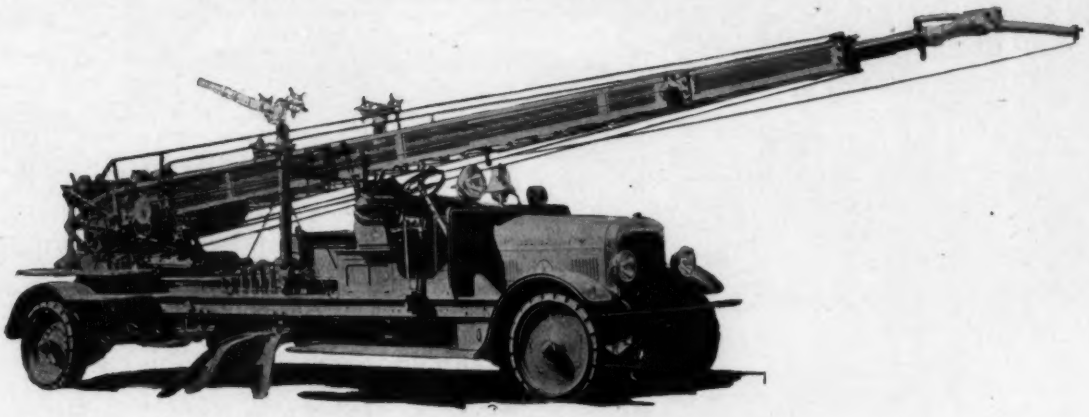
Captain W. P. Babcock, of the Nyack Salvage Patrol, spoke on the cooperation of the county chiefs in the matter of placing calls for assistance. Capt. Babcock pointed out that this is the only salvage corps in the county and its first duty is to aid Nyack. The corps is not as yet a part of the Nyack fire department, and chiefs who believe they have an urgent need of the corps should communicate the call to the patrol officers. Capt. Babcock was enthusiastically received on this, his first visit to the association.

Foam Extinguishes Refinery and Test Fires

A fire which started in a refinery of the Freedom Oil Works of Freedom, Pa., was easily extinguished by the use of the Amdyco foam extinguisher.

In the excitement of connecting the foam generator, the men twisted the hose, and the generator did not operate properly. Once the fault was corrected, however, the Amdyco appliance got the fire under control.

At Mishawaka, Ind., a large pit was dug and filled with two hundred gallons of oil and gasoline in order to demonstrate the value of this equipment to the chiefs of the nearby cities. Once the foam stream reached the blaze, it required twenty-eight seconds to extinguish the burning pond of oil. The city is purchasing an American-LaFrance fire apparatus, and has specified an Amdyco generator as part of the equipment.



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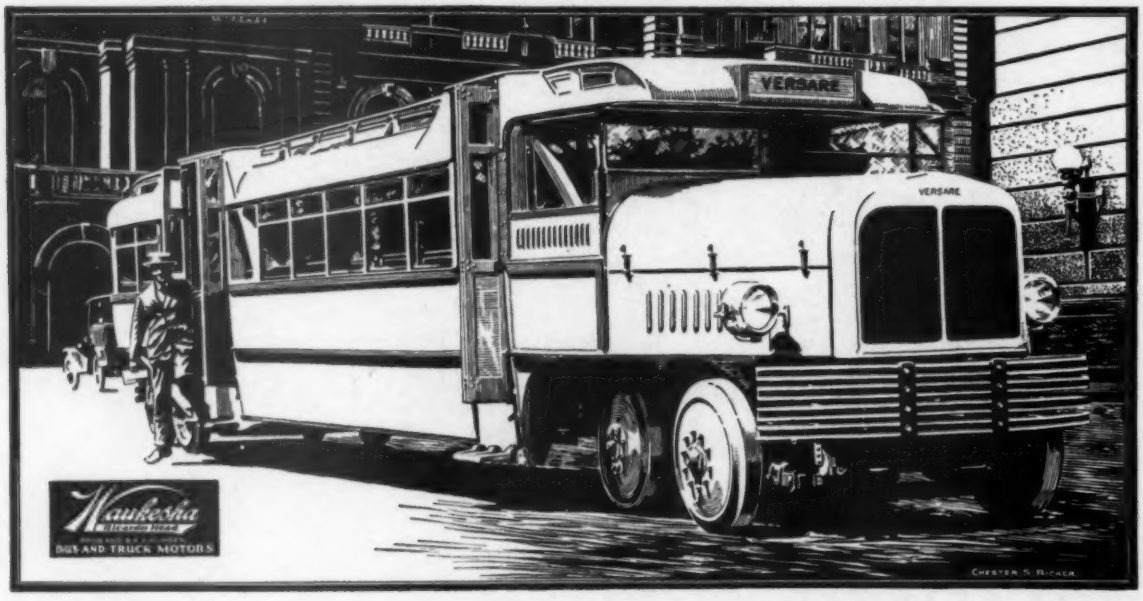

America's First Gas Propelled Street Car

This is not a fire engine but a ninety-six-passenger, 31,000 pound bus. The engine that so successfully handles this bus is making records in pumping on all fire engines to which it has been applied — because of their special features such as the "Ricardo Head"—"Girder" type crankcase and "Fresh Oil" lubricating system.

These engines have been specified not only on new equipment but for replacement purposes by the Milwaukee Fire Department. Write for Four and Six Cylinder Bulletins, describing these engines.

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INDUSTRIAL PLANT PROTECTION

Fighting Fire at a Vacuum Oil Plant

By J. M. KLIPFEL,
Chief Engineer of Plant and Chief of Fire Department, Rochester, N. Y., Works, Vacuum Oil Company

In writing an article on the personnel of a plant Fire Department Organization, the question immediately comes to mind—"What is an organized fire department?" This I believe, can be answered by the following definition in four parts, (d) being of the utmost importance in the Petroleum Industry:

(a) Where some person is designated by appointment and virtue of his ability to take charge of operations at fires.
(b) Where some person is responsible for the maintenance of the fire apparatus; this person to be a responsible man and delegated by the company or person commanding the apparatus.
(c) Where definite signals are employed to obtain response of men and apparatus.
(d) Where definite membership in a company or department organization is arranged for, drills called at least monthly, and meetings held for fire prevention.

The efficiency of a fire brigade is largely dependent on the care and judgment exercised in the selection of its members. It is important that they should be physically strong, able-bodied, intelligent, dependable and sober, preferably between 21 and 45 years. The personnel of the Rochester Fire Department consists of 50 men, three battalion chiefs, one assistant chief, and one chief. They are divided into various types of companies such as are required to make a complete fire department as follows:

One chief
One assistant chief
Two dispatchers
Three battalion chiefs
Six hose companies of 6 men each
One ladder and police company of 10 men
One rescue and ambulance company of 4 men

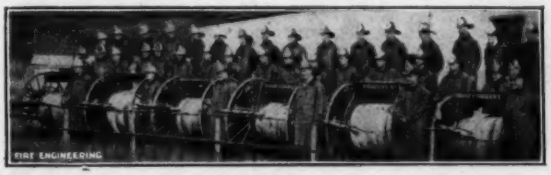
Personnel Required for Fire Fighting

These men are selected from volunteer lists with due consideration being given to the man's knowledge of the plant and the particular duties for which he is fitted. They are all trained

One and One-half Miles a Minute, or 90 Miles An Hour, is the Rate at Which This Line is Delivering Water. The Pressure is 125 Pounds.

and, like the army, discipline must prevail so that the department becomes a well-regulated unit which moves automatically at the command of its officers. At the same time, its members may be called upon to exercise the initiative and meet situations in which quick judgment and common sense must be well mingled. To attain the knowledge which prepares the men to fulfill this part of their position, special care must be taken in the appointment of officers to whom fall the duties of training the rank and file.

The men must be taught not only to think quickly and



The Rochester Works Fire Department is Always Ready for Business—and Looks the Part.

Officers, Vacuum Oil, Rochester Plant Fire Department, L. to R. Battalion Chief John Spahn, Assistant Chief R. F. Sutherland, Chief J. M. Klipfel, Battalion Chief H. J. Roth, Battalion Chief Jacob Tellier.

promptly, but through training must be able to do the right thing at the right time. The fireman cannot take his problems home and sleep over them—they must be decided on the spur of the moment and upon that decision, right or wrong, will hang the safety or destruction of many thousands of dollars and, quite possibly, also valuable human lives.

The chief of the brigade should be a man whose position commands the respect and obedience of the men under him. In any instance, he should be one who is physically and mentally fitted by experience and study for the work; one who has a thorough knowledge of the premises, plant, and equipment and whose duties insure his presence at the plant the greater part of the time. While the proper man is usually a strict disciplinarian, he must be reasonable in his demands. It frequently happens that after all preparations have been made to meet virtually all conditions something fails at a critical moment, he is unfair when he takes the attitude that the man should produce in any case.

The successful chief must be close to his men, particularly his assistants. He must watch their interests and above all come into intimate contact with them and their aspirations so that they will feel free to discuss policies and methods as to what they would have done had they been in the chief's shoes. The filling of another man's shoes in a fire department is not an improbability, but is very probable in all grades from the chief down, and should be provided for by encouraging the men to look upon their membership with pride and reward exceptional work and interest by promotion.

The assistant and battalion chiefs carry out the orders of the fire chief and oversee the work of the different units of the brigade, the units in turn include a captain and lieutenant who are responsible for company detail along with their duties as firemen.

Embalming Fluid Explodes at Perth Amboy

Thirty persons were hurt, seven of them seriously, recently in Perth Amboy, N. J., when an explosion wrecked one of the plants connected with the Roessler & Hasslacher Chemical Company. The plant was a one-story brick building occupying an entire city block, and was used in the manufacture of embalming fluid. A workman was engaged in putting alcohol in a vat of sodium mixture when the explosion occurred, according to advices. The mixture in the vat was thrown over a number of persons and the building set on fire. One or two deaths are expected to result.

OIL TANK TOPPLES OVER; TWO DIE IN RESULTING FIRE

Falling Tank Crashes Through Roof of Sheet Metal Bunk Room and Oil Is Ignited in Gas Heater

THE uncertainties in fighting an oil fire was demonstrated by one which was caused by a two-hundred barrel settling tank toppling over one morning about eleven miles from the heart of Los Angeles, Cal. Two men were asleep in a wood frame building which was covered with corrugated iron. The room was heated by gas, and in the crash of the tank on the bunk, the high gravity oil came in contact with the heater flame.

The men about the plant were working feverishly in attempting to rescue the men from the bunk, and it was not until thirty minutes later that the fire department was notified. Both of the men sleeping in the building died from the burns.

The settling tank was located between two 1,500-barrel tanks of oil. All of the tanks were set inside of earth banks about forty by eighty feet in area with sloping banks from five feet deep to the level of the ground. About fifty feet from the pit was a producing well with a wooden derrick and with a sprinkler arrangement at its crown to keep the derrick wet. On the west side about forty feet from a producing well was a derrick with no water protection. Other derricks were scattered about the field.

Each of the fire companies responding to the fire had to travel from three to five miles. The first company to respond laid six hundred feet of hose from the nearest hydrant which supplied sixty-five pounds pressure from a 4-inch main. Due to the intense heat and the danger of a boil over, it was impossible to get close to the derrick. The corner beam of the derrick boiled over and the top portion fell into the flames.

The 1,500-gallon Foamite car arrived and pumped foam into the pit until the tank sprung aleak and conditions made Foamite useless.

The Foamite was conserved for special occasions. The other companies responding wetted down nearby exposures and embankments were thrown up to cut down the possibilities of the liquid from the boil over spreading the fire. The exposures

Oil Fire Which Caused Death of Two Men and $50,000 Property Damage. Remains of Corrugated Iron Building Can be Seen in Center.

were kept covered until the oil had burned itself out—twenty-one hours later.

The 3-alarm fire was fought by 1 Foamite car, 1 1,000-gallon Seagrave triple combination and 2 American-LaFrance 750-gallon triple combination cars.

Chief Brosnan Credited for Prize Record

The people of Albany, Ga., are giving Chief Brosnan most of the credit for the National Fire Waste Council awarding the grand prize in the fire reduction contest to that city. This is the second year that Albany has been given recognition by the council for its work in reducing the fire loss.

The hobby of the chief is fire prevention, and the nightly patrol which visits business houses, cotton warehouses and other places of potential fires several times during the night. This practice has prevented many fires. Chief Brosnan, in company with representatives of the chamber of commerce, will go to Washington, May 10, to attend the annual meeting of the United States Chamber of Commerce at which time the formal presentation of the award will be made.

How Sacramento Teaches Fire Prevention

Fire prevention is taught systematically in Sacramento, Cal. Its observance is made worth while to the school children as well as to their parents.

The little ones look forward to Fire Prevention Week, and then they look forward with as keen interest to the day when they are to be rewarded for their excellent work.

Chief M. J. Dunphy, Sacramento, Cal.

Wednesday, December 10, was the gala day last year for teachers and pupils of the Marshall, Coloma and McKinley schools of that city, for the awards were made on that day for the best records in fire prevention work during Fire Prevention Week. The first prize, a handsomely engraved bronze cup, was awarded to the Marshall school; the second and third prizes, silk replicas of Old Glory mounted on portable staffs topped off by the American Eagle in gold, were given to the Coloma and McKinley schools. These flags are so made that they can be placed in the offices of the principals and raised and lowered at will.

These beautiful trophies were furnished by the Retail Merchants Association and the Chamber of Commerce. Chief Jay W. Stevens, State Fire Marshal, made the awards, and accompanied by City Manager H. C. Bottorff, Fire Chief M. J. Dunphy, Second Assistant Chief Mulligan, and C. L. Katzenstein, visited the three schools where each addressed the pupils.

The program was a pleasing one, and invoked the expressed purpose of the pupils to continue the good work of fire prevention in future years, and thus assist the Sacramento fire department to win for that city the Thomas H. Ince trophy for the best record in this work on the Pacific coast.

Miss E. A. Von Hatton, principal of Marshall school; Miss L. L. Laugenour, principal of the Coloma, and Miss Minnie Roth, principal of the McKinley, with the children in their charge, are entitled to great praise for their work. The essays, drawings and slogans presented by the pupils were unique and exhibit exceptional skill in their execution, as well as portraying indomitable spirit in the good work. Others to be commended are Newton Booth, David Lubin, Freemont and Leland Sanford, Elementary schools and the Christian Brothers College. Chief Stevens, Chief Dunphy and City Manager H. C. Bottorff are loud in their gratitude to all teachers and pupils who had a hand in making the event such a great success.

Keystone Fire Chiefs Have Banquet

Members of the Keystone Fire Chiefs Association held their banquet in Reading, Pa., and many of the city officials were guests of honor. The main object of the meeting was to act on the new set of by-laws for the association.

At the banquet which followed the discussion, a rather novel idea was disclosed. This was the form of the menus; they were printed in the center of attractively designed crepe paper napkins.

Mayor Sharman of Reading spoke on the traffic problem and means of solving the problem. Chief Niethammer on behalf of the local fire department extended a welcome to the members of the association whenever they visited the city. At the business part of the gathering, eighteen new members were admitted to the association.

Ladder Truck Overturns in Columbia, Pa.—After being in service thirty-two years, the ladder truck of Columbia, Pa., had its first spill. The ladder was extended to its full height and Chief Miller was on top to insert a rope in a pulley at the top of the state armory flag pole. While thus engaged, the truck tipped over on the side but Chief Miller escaped injury; the truck was easily righted.

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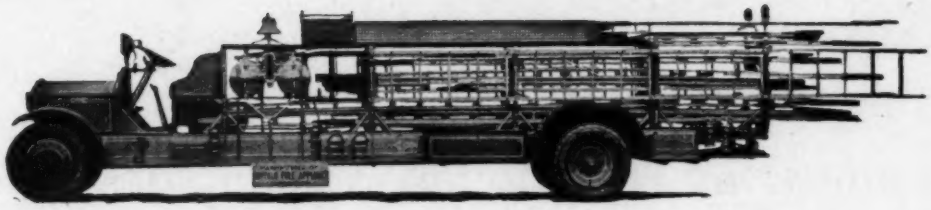

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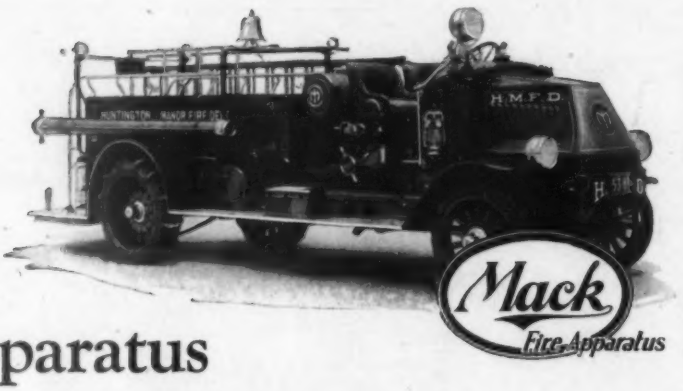

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It includes questions asked at promotional examinations in practically every city in the country where civil service examinations are held, with answers by Chief Kuss and our Editor.

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FALSE ALARMS

Newark Evening News

FIRE STATION COMFORTS.

By F. W. Knoeppel
Fire Dept., Jacksonville, Fla.

Enjoy our station comforts, they are here for that purposes.

Come in any time of the day or night. If there is anything you wish information on—ask the man on watch. He has nothing to do but answer your questions and if he does not know he will take the necessary steps to secure the desired data.

Do not be afraid to put your hands on the brass or nickel plated pieces about the station. The firemen have nothing to do and will gladly polish it over again.

Use our chairs and be comfortable. When you leave the station let the chair remain anywhere; the firemen can fall over them if an alarm comes in.

Do not be afraid to talk out loud, especially at night when the firemen are asleep; they do not mind being awakened by your conversations.

Spit on the floor if you wish; we want you to feel at home and the firemen will gladly clean the floor again.

If you cannot find chairs to sit on, use the apparatus. You will find plenty of room on that. Sound the sirens and bells; then you will know whether or not they are in working order.

If you or your neighbor are in trouble, or need any assistance of any kind, call the fire department. They have nothing else to do.

The station is open twenty-four hours a day. Everybody welcome. Come and bring your friends.

The firemen are very obliging; they will crank your Ford, mind your baby but refuse to cash your checks.

The fireman is a wonderful man. He is supposed to know every street in the city, every prominent building, every railroad, street car line, bus line, garage, department store, rooming house, prominent families,—the Jones's, the Smith's, the Uncle's, Aunts, Cousins, Nephews, Grandmothers, Son in Laws, Daughter in Laws, etc. He is supposed to know everything and if he fails to give the necessary information you may wonder WHAT HE IS THERE FOR.

Bring your disputes, arguments, family affairs and personal troubles to the firemen—they will solve them for you.

The fireman being a public servant of the city, is here to serve you in every reasonable manner, and after serving you to his utmost, will devote the remainder of his time to fire fighting.

If there is anything further our firemen can do for you, PLEASE ASK.

* * *

Many people look upon our firemen as common labor and feel that the position of fireman is a lazy man's job. But would you change with the firemen? You go to your bed at night and can remain until morning while he may have to answer alarms in all kinds of weather. Little he knows when he leaves the station whether or not he will return or see his family again. He is never thought of until some big fire occurs and some life has been saved—then he is a hero, while yesterday he was ONLY A FIREMAN.

Let's give more thought to the FIREMAN—his troubles—ups and downs, and we will find them a loyal class of fellows and also good citizens.

The Fire Chief he did not heed
But raced ahead pell-meil
So the doctor told the sexton;
And the sexton tolled the bell.

ONE FINE JOB

The public's impression of the job of a fireman has always been a false one and little improvement may be expected if the members of the fireman's own family hold an opinion of his work as expressed by an old Swede, whose son was recently appointed a member of the Chicago Fire Department.

"My son," chuckled the old Swede, "he got one fine job now."

"What doing?" somebody asked.

"Working in the Chicago Fire Department on night shift. Oh, a fine job, he works all night and saves his lodgin', and then he sleeps all day and saves his food."

In a small town where there was great rivalry between the various volunteer companies, a newly organized company purchased a fire truck of questionable reputation—they bought one that met their purse first, they were continuually "kidded" about the machine by members of the other companies who did not conceal their doubt that the machine would be able to reach a blaze under its own power in the event of an alarm.

Under these conditions if the machine went bad they simply had to cover the defects by some plausible excuse.

Recently, however, at the annual fire department fair the new company got a knockout blow.

The captain of their company was called upon to talk and during the course of his remarks he said: "Our motor truck has given remarkable service. We haven't paid a cent for repairs on the machine all the ten months we have had it."

At this point one of the audience (apparently from a competing company) added:

"That's just what the man who did the repairs told us."

AND HE DID

A new rookie in the fire department was sent out in uniform on business and he called at the office of a big specialist and asked to see him.

"Have you an appointment?" asked the nurse.

"No."

"Would you like to see him today?"

"Must see him."

"Well, I think we can fit you in after the next patient. Go in this room and take your clothes off."

"But I don't want to take my clothes off," insisted the fireman.

"Well if you want to see the doctor you will have to. That is the only way he will see anyone."

"Oh, if I have to, I will," replied the rookie.

Ten minutes later he was in the presence of the specialist.

"Well, young man, what seems to be your trouble?" asked the doctor.

"Nothing, sir. I reported here to call your attention to a hazardous condition in the basement of an apartment house which you own."

The company had operated at a stubborn fire in a flavoring extract shop and did not finish up the job until the small hours of the morning. One of the members of the company, through his efforts to salvage as much of the alcohol as he could, returned to the station in a very questionable condition. He had, in simple language, taken more than he could hold.

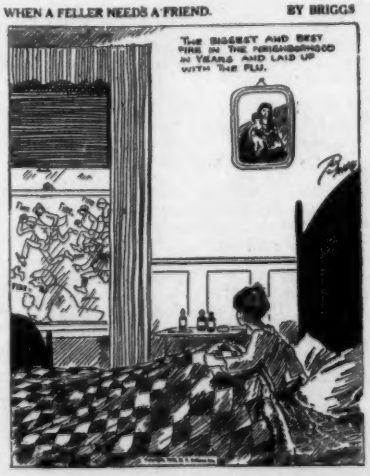
It wasn't until late the following afternoon that he was in a condition to navigate by himself, and at this point he was hailed before the commissioner of the department on the charge of intoxication.

"Your Honor, I was not intoxicated."

"But this officer says you were trying to climb the sliding pole in the station."

"I was, your Honor. A couple of pink crocodiles had been following me all day, and I don't mind telling you that the thing was getting on my nerves."

WHEN A FELLER NEEDS A FRIEND. BY BRIGGS



N. Y. Herald-Tribune

FIRE DEPARTMENT ACTIVITIES

New Chief for Barker, N. Y.—Edward B. Gifford was named chief of the Barker, N. Y., department.

Cleveland Firemen to Help Charity Drive—The fire department of Cleveland, Ohio, will aid the drive for the construction of a $1,500,000 hospital.

Charleston, S. C., Purchases Pumpers—Contract was signed by Charleston, S. C., for the purchase of two Ahrens-Fox pumpers of 750 gallons capacity.

Phillipsburg, Pa., Acquires Pumper—A Mack triple combination car of 600 gallons capacity was delivered to Phillipsburg, Pa.

Boston Considers Candidate for Commissioner—Mayor Nichols of Boston, Mass., has submitted the name of John T. Hawes for re-consideration for the post of fire commissioner.

New Station for Tyrone, Pa.—Plans are being made for the construction of a new fire station to house the Citizen Fire Company.

Juneau, Wis., Purchases Fire Apparatus—Juneau, Wis., has purchased Pirsch-Kissel apparatus of 500-gallon capacity. The contract price was $6,064.

Olin, Ia., May Purchase Apparatus—Funds are being raised in Olin, Ia., for the purchase of a fire apparatus estimated to cost $4,000.

Recruiting for Denver, Col., Department—Out of 255 men who took the physical examination for appointment as city firemen, 158 passed. The mental examination took place March 29.

Fluvanna, N. Y., Firemen Plan for Community Center—The Fluvanna, N. Y., firemen are planning the purchase of a garage which they plan to convert into a community center.

Murphysboro, Ill., Received Gift of Apparatus—The tornado-swept city of Murphysboro, Ill., received two pieces of fire apparatus and 1,000 feet of hose from St. Louis at a cost of $1.

Lansford, Pa., Planning for Association Meet—Plans are being made by Lansford, Pa., for the annual convention of the Four County Firemen's Association which will be held in that city in June.

Bay City, Mich., to Have Drill Tower.—The council of Bay City, Mich., voted to construct a drill tower for the fire department. The city will purchase the material and the tower will be constructed by the firemen.

Port Colborne, Ont., Makes Improvements—As a result of the $250,000 fire in Port Colborne, Ont., which destroyed half of a business block, a $5,500 fire apparatus was purchased and several paid firemen will be employed.

New Car for Chief Miller of Terre Haute—A Buick standard six coupe has been purchased for the use of Chief Miller of Terre Haute, Ind. The machine will be painted red and decorated with the chief's insignia.

Wyoming, Ill., Purchases Fire Apparatus—The council of Wyoming, Ill., purchased a Boyer triple combination car of 300-gallon capacity. It will be equipped with two 35-gallon chemical tanks.

May Re-Elect Hoy Chief of Norristown, Pa.—A movement has been started to re-elect Peter V. Hoy as chief of the fire department of Norristown, Pa., for the twenty-seventh term. The meeting to elect the chief will be held in April.

East Orange, N. J., Chief Presented with Badge—Chief George Mitchell was presented with a hand-wrought gold badge on the occasion of his retirement after twenty-six years of service.

Pennsylvania Firemen Incorporate—The Darlington Volunteer Fire Department has been chartered at Darlington, Beaver County, Pa. Its object is to support and maintain an engine, hook and ladder and hose company.

Los Angeles Has Graduation—Chief Scott of Los Angeles, Cal., awarded one hundred and eighty diplomas to the captains and lieutenants of the department who graduated from the first class of the city's fire college. The course lasted nine months and the average rating of the class was ninety-one per cent.

Fire Alarms Increase in Rushville, Ind.—During the past year, the Rushville, Ind., department answered ninety-eight alarms—a new high record. The total loss was $39,569, and with a population of 6,000 this is equivalent to a per capita loss of $6.60.

Chattanooga, Tenn., Threatened with Higher Rates—Unless improvements are made in the fire department, Chattanooga, Tenn., will be changed in the rating schedule from a third to a fourth-class city. It is estimated that this change would cost the city about $50,000 in higher insurance rates.

Many Lives Lost in Iowa—According to the report of the state fire marshal of Iowa, eighty-six people lost their lives as the result of fires. Of this number, twenty-two were men, thirty-one women, and thirty-three were children. In thirty-eight of the cases, the direct cause was the use of gasoline or coal oil.

Galesburg, Ill., Drafts Pension Law—A copy of the pension law drafted by Galesburg, Ill., which provides for the creation of a pension fund through the levying of a one per cent of one mill tax on city property, has been sent to the state association for approval.

Chicago, Ill., Plans New Fire Stations—The passage of a bond issue is being urged on the voters in Chicago, Ill., in order to make needed improvements in the fire department. Among these are the construction of thirty-five brick fire stations and the addition of six new companies. Since 1915, only two new fire companies have been added.

New City Service Truck for Watertown, Mass.—The fire department of Watertown, Mass., under command of Chief John W. O'Hearn, has ordered a city service truck from the Maxim Motor Company, Middleboro, Mass. This apparatus will be exhibited at the convention of the New England Association of Fire Chiefs, at Manchester, N. H., on June 22 to 24.

Passaic, N. J., Finds New Use for Fire Hose—More than three thousand striking mill hands assembled in front of one of the mills were dispersed by five fire companies of Passaic, N. J., with hose streams. Previous the police department tried in vain to disperse the mob by the use of tear bombs.

Nyack, N. J., Suspends Driver for Speeding—One of the drivers of the Nyack, N. J., fire department was suspended for thirty days for speeding recklessly through the main street of the city. The following notice was later posted on the bulletin board of the fire station, "If you think anything of your appointment as a driver of the apparatus of this company, you will use judgment in driving through the business section of this city."

Fire Alarm Notes

Correctionville, Ia., Installs Siren—A siren has been installed on a tower in Correctionville, Ia.

New System Being Installed in Lenoir, N. C.—A new fire alarm system has been installed in Lenoir, N. C.

Danville, Va., to Install Warning Sirens—Several sirens will be installed at vantage points in the business district to warn of the approach of fire apparatus.

Columbia, Ga., Show New System Satisfactory—Tests of the new Gamewell fire alarm system of Columbia, Ga., have shown the system to be satisfactory.

New Boxes for Port Huron, Mich.—A number of new boxes have been installed and several fire alarm boxes have been replaced in Port Huron, Mich. In all, twenty-two boxes have been installed.

Fire Alarm System for Red Lion, Pa.—The Sterling Fire Alarm Co. has been awarded a contract by Red Lion, Pa., for the installation of a fire alarm system consisting of twelve fire alarm boxes.

New System Installed in Garfield, N. J.—A new system of fire alarm communication has been installed in Garfield, N. J. A fire alarm box has been installed in front of each of the five fire stations and the siren may, in addition, be controlled from the police headquarters.

South Carolina Passes Fire Alarm Bill—Gov. Thomas G. McLeod of Columbia, S. C., has signed a bill making it compulsory to install fire alarm boxes in all hospitals and schools in cities or towns which have a central fire alarm system. A penalty is provided for those who do not comply with the law.

Check the six essential requirements of any fire hydrant with Darling's important points

1. **Ample Water Supply**—Darling's large barrel delivers the water at the nozzles at approximately the same pressure as at the mains. ✓
2. **Rugged Construction**—Amply strong to safely withstand abuse incident to general fire service purposes and skidding automobiles. ✓
3. **Non-Freezing**—Automatic in action, dependable operation, quick drainage and non-clogging. ✓
4. **Compression Valve**—Accidental breaking of barrel or bending of stem only draws the valve tighter—no leaks—no floods. Closes with the pressure. ✓
5. **Minimum Maintenance**—Minimum attention to maintain in operative condition and with all parts accessible through top and interchangeable. ✓
6. **Adaptability to Installation Conditions**—The Darling Extension Section is only part required to raise hydrant and nozzles can be pointed in any desired position. ✓

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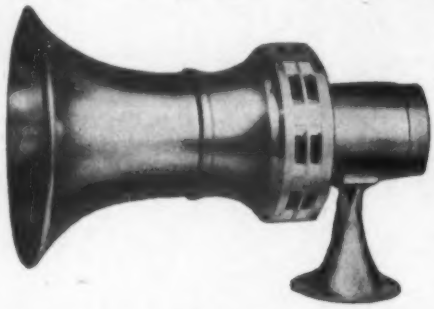

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Their Penetrating Screech Can't Be Mistaken

The distinctive far reaching screech of Sireno electric sirens will open up the heaviest traffic far ahead for your speeding apparatus. They will prevent collisions and costly delays in reaching fires, and so protect your men from accidents and help you cut down fire losses.

There is a Sireno of the right type and size for every fire department need—for heavy apparatus, chiefs' cars, motorcycles, and street traffic control.

Back of every one of these Sireno electric sirens is over 17 years' experience in designing and manufacturing small electric sirens exclusively. Their distinctive and penetrating sound, compact design and rugged construction have made them standard for fire department service for many years. It will pay you to replace old sirens with Sirenos and to order them on all new apparatus.

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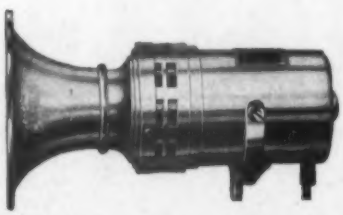

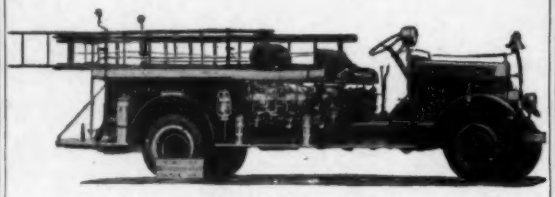

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"Pirsch" has built fire apparatus exclusively for nearly 30 years. Today "Pirsch" apparatus or equipment will be found in over one thousand fire departments—all over the world.

You take no chance buying of us—You do not buy an experiment—"Pirsch" apparatus and equipment has been proven through actual service.

Let us figure on your new apparatus of any type, especially pumpers of 150—300—350—500—750 gallons capacities.

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Fire Patrols Association to Meet

Simultaneous with the meeting of the International Association of Fire Engineers' Convention to be held in New Orleans, La., on October 19 to 21, an interesting program has been planned by the Officers' Association Fire Patrols, Salvage Corps and Protective Departments of the United States and Canada. Through the courtesy of E. C. Richards, superintendent of the New Orleans patrol, the meetings will be held at headquarters 732 Camp street. John Ashmead of 76 William street, New York city, is secretary of the association. Mimeographed copies of the papers will be distributed in advance of the meetings to enable interesting discussions to take place.

The morning session will convene at 10 a. m., October 20 and will adjourn from 1 p. m. until 8 p. m., the time of the evening meeting. The list of papers which will be presented, follows:

1. "The Fundamentals of Fire Insurance." By Roy W. Smith, president the Underwriters Salvage Corps, St. Louis, Mo.
2. "A. D. T. Service." By a representative of the A. D. T. An opportunity will also be afforded to visit the local A. D. T. offices at a time to be announced. E. C. Richards, superintendent of the Fire Insurance Patrol of New Orleans, will lead the discussion in this paper.
3. "Salvage Covers Their Type and Use." By J. J. Conway, superintendent of the Cincinnati Salvage Corps. Discussion by Superintendent J. J. Sheedy, of Albany, N. Y.; J. B. Kirley, of Louisville, Ky.; J. W. Sutphen, of Newark, N. J., and J. T. O'Donnell, of St. Louis, Mo.
4. "Sprinkler Equipment and Maintenance." By J. T. O'Donnell, superintendent of the Salvage Corps of St. Louis, Mo. Discussion by Superintendents Ruane of Minneapolis, Minn.; Harry Hoffman of Philadelphia, Pa., and H. W. Jordan of Baltimore.
5. Salvage Corps Records and Statistics. By Frank McAuliffe, Chief of Chicago Patrols. Discussion by Superintendents Wm. J. Curran, Indianapolis, Ind., and J. R. Townsend of St. Paul, Minn.
6. Co-operation with Fire Department and Public Utilities. By H. E. Thompson, superintendent of Boston Protective Department. Discussion by Wm. H. Guertin of Worcester, Mass., and Chief Jos. Randall of Duluth, Minn.

Members of the I. A. F. E. are invited to attend and all are expected to enter into the discussions.

Arizona Firemen's Convention Program

The third annual convention of the Arizona State Firemen's Association will be held at Prescott, Ariz., on Thursday, Friday and Saturday, June 10, 11 and 12, next. Following is the program:

Thursday morning—9 o'clock—Registration at the Central Fire Station.
Afternoon—1:30 o'clock—Convention called to order by the president.
Invocation by Rev. C. F. York.
Address of welcome by Hon. Morris Goldwater, Mayor City of Prescott.
Response by B. W. Norton, Chief Fire Department, Bisbee, Ariz.
Election of Credential Committee.
Roll Call and Seating of Delegates.
Reading minutes of previous meeting.
Evening—7:30 o'clock—Banquet at the Owl.
Friday morning—9:30 o'clock—Business Session.
Topic Discussion:
Flagstaff: "What the A. S. F. E. Means to Us."
Lowell: "Distribution of Water Systems for Domestic Use and Fire Protection."
Miami: "Perfect Harmony in and Among Fire Departments."
Mesa: "Advantages of Proper Building and Fire Ordinances."
Yuma: "Co-Operation of all City Departments With Fire Dept."
Winslow: "Care of Fire Apparatus."
Afternoon—1:30 o'clock—Smoki Parade and Snake Dance.
Evening—9 o'clock—Dance at the Palais Royal and I. O. O. F. Hall.
Saturday—9:30 o'clock—Business Session.
Afternoon—1 o'clock—Election of Officers and Adjournment.
Evening—8:30 o'clock—Open House at the Fire Department Club.

Following are the officers of the Association: J. J. Murphy, past president, Warren; J. A. Roberts, past president, Tucson; Walter Suter, president, Globe; N. S. Parks, first vice-president, Yuma; Charles F. Nafzigir, second vice-president, Phoenix; W. J. Nemeck, secretary-treasurer, Douglas; L. W. Kelly, sergeant-at-arms, Flagstaff; Executive Committee, R. H. King, Tucson, and H. W. Reggin, Prescott.

Chief Sennott Speaks on Fire Prevention—At a meeting of the Boston Osteopathic Society, an exhibition of first aid and resuscitation was given by members of the Boston, Mass., department. Chief Daniel F. Sennott spoke on "Fire Prevention."

Tax Expert Convicted of Arson

A former member of the government's tax unit in New York was convicted in Bethel, Conn., of having hired members of the notorious Kid Dropper gang of New York city to set fire to his plant in order that he might collect $70,000 insurance.

The members of the gang entered the factory, bound the watchman and set fire to the contents of two five-gallon cans of gasoline. They made their escape in an automobile and left the watchman to die in the fire. Residents of the town saw the escaping car and noted its license plate number; the flames were discovered in time for the firemen to rescue the watchman. The gangsters who set fire to the factory stated that they did not receive the $5,000 promised them.

The conviction carries a prison sentence of from one to three years. An appeal of the judge's decision has been taken.

Cotton Seed Plant Fire Spread by Conveyors

(*Continued from page* 399)

to the huller building had been extinguished, a member of the plant brigade discovered fire burning in the linter press room. An investigation showed that not only was fire burning in this room but had spread from the huller building through the linting house where fire was also rapidly gaining in proportions and from there to both the seed cleaning house and the linter press room.

Chemical Co. No. 1 was assigned to wet down and take care of the fire which had been burning in the hull house while the two lines from engine 1 and hose Co. No. 1 were extended to enter the seed cleaning house.

The fire in this building was quickly killed but before the department had been operating for more than a couple of minutes at this point it was discovered that fire was burning in the seed house, having traveled beneath the conveyors through the frame shed from the seed cleaning house to seed house.

One of the members of the chemical company on looking over the ground also learned that fire had spread to the meal house through the conveyor shed from the press room where fire had likewise entered.

At this point, the chief, who had arrived, appreciated the seriousness of the situation and immediately transmitted second and third alarms, bringing out engine companies No. 2 and 3 and hose companies 2, 3 and 4.

Most of these companies having to travel a great distance were slow in getting to the fire. By the time they arrived fire had gained considerable proportions in the press room, and had fully involved the conveyor sheds between the press room and meal house as well as having gained a foothold in the meal house.

Fire was also burning briskly in the linter press room and in the seed house as well as in the delinting house.

Upon its arrival engine Co. No. 2 was placed at hydrant No. 4 and stretched a single line to the seed house.

Engine No. 3 was placed at hydrant No. 5 and stretched a single line to the seed cleaning house.

Hose Co. No. 2 was placed at private hydrant 2 and stretched a single line to the press room.

Hose Co. No. 3 was placed at private hydrant No. 1 and stretched a single line to operate in the meal house.

Hose Co. No. 4 was attached to private hydrant No. 5 and stretched a single line to the delinting house.

The fire was gaining in intensity all the time and it required very energetic work on the part of the department, with quick shifting of lines, to bring the fire under control.

Before it was extinguished, however, the stock in the seed house as well as in the hull house and meal house was badly damaged by water and fire.

The seed cleaning house was completely destroyed along with the machinery therein while the delinting house and the huller house were badly damaged.

The fire was held in the linter press room and in the meal press room and also was prevented from reaching the oil tanks.

The department deserves credit for holding the fire under adverse conditions.

The Editor's opinion on handling this fire will be given in the next issue of FIRE ENGINEERING.

Firemen Rescue Boy Stuck in Mire—Members of a Boston, Mass., ladder company rescued a 12-year old boy who was stuck in the mire. This adds one more duty the fire department has been called upon to perform.

Mobile Benevolent Association Issues Booklet—Through the courtesy of Henry D. Pillichody, secretary of the Mobile, Al., fire department, the editors are in receipt of an attractive souvenir magazine issued by the Benevolent Firemen's Association descriptive of the work of the association and the department.

PROPOSED IMPROVEMENTS

Darien, Walworth Co., Wis.—City voted in favor of the purchase of new fire apparatus, to cost $3,000.

Milton Junction, Rock Co., Wis.—Village voted in favor of the purchase of a chemical fire engine.

Watertown, Jefferson Co., Wis.—Fire apparatus to be purchased at cost of about $10,000. For rural use in five townships.

Ocala, Marion Co., Fla.—It is reported that a new combination hook and ladder truck will be purchased.

Decatur, Macon Co., Ill.—Fire station to be erected here.

Quincy, Adams Co., Ill.—Walton Heights district planning to erect a fire station with hose tower, and triple combination pumper.

Sandstone, Pine Co., Minn.—Fire Inspection Bureau recommended the purchase of two 40-gallon chemical tanks, if hand drawn, or two 35-gallon chemical tanks if motorized or a truck for carrying 1,000 feet of hose and equipped with a single 40-gallon chemical tank. Also minor equipment including beasement pipe, hose clamp, several hand chemical extinguishers, etc.

Danbury, Fairfield Co., Conn.—Town contemplating purchase of motor apparatus for Alert Hose Company.

Cedar Rapids, Linn Co., Iowa.—Chief James Kennedy recommended in his annual report that a hook and ladder service truck be purchased.

Des Moines, Polk Co., Iowa.—The South West Ninth Street fire station will probably be equipped with a combination chemical and hose truck.

Valley Junction, Polk Co., Iowa.—Agitating for purchase of apparatus for the volunteer fire department.

Cornwells (P. O. Cornwells Hts.) Bucks Co., Pa.—Fire department raising funds for purchase of combined chemical and pumping apparatus.

Point Pleasant, Mason Co., W. Va.—Funds being raised for purchase of a chemical truck for fire department.

Elkins, Randolph, Co., W. Va.—Chief M. H. Brightbill recommended to city council that a triple combination pumper be purchased.

Monterey, Monterey Co., Cal.—W. E. Parker, advocating for better fire fighting equipment.

South Pasadena, Los Angeles Co., Cal.—J. Frank Smith, Chief of Fire Department recommended the construction of an additional fire station, installation of fire alarm system, the purchase of two additional pieces of fire apparatus and the employment of additional firemen.

Saint Petersburg, Pinellas Co., Fla.—New fire station to be erected.

Quincy, Adams Co., Ill.—Walton Heights district advocating for erection of fire station with hose tower and the purchase of apparatus.

South Bend, St. Joseph Co., Ind.—Fire station may be erected here.

Fire Apparatus For Sale

Two Single Tank Combination Chemical and Hose Cars, hose body capacity 1000 feet 2½" fire hose, 200 feet chemical hose. Fully equipped. Price very attractive. E. A. Mahoney, Village Clerk, Albion, New York. 4-25, 10, 25.

Paducah, McCracken Co., Ky.—Purchase of ladder truck is being urged after recent large fire.

Dunnell, Martin Co., Minn.—To purchase fire apparatus.

Reno, Washoe Co., Nevada.—City and County may purchase fire apparatus for fire department.

Charlotte, Mecklenburg Co., N. Car.—City planning to purchase additional fire apparatus.

Mt. Vernon, Skagit Co., Wash.—Chief Schlanser advocating the purchase of a scow equipped with gasoline pumper, capable of pumping several streams, after large fire near waterfront.

Chattanooga, Tenn.—Tennessee Inspection Bureau recommended the installation of new fire alarm system, the addition of 48 new firemen, the erection of a drilltower, and three new companies.

Olin, Jones Co., Iowa.—Agitating for a siren for fire department.

Zwingle, Dubuque Co., Iowa.—A volunteer fire department has been organized with John Turley, Chief. It is proposed to have fire engine mounted on automobile chassis.

New Brunswick, Middlesex Co., N. J.—City planning to install new fire alarm system.

Elyria, Lorain Co., Ohio.—To purchase pumper for fire department. J. A. Hewitt, Service Director.

Collegeville, Montgomery Co., Pa.—New fire station to be built; to cost about $20,000.

Harrison City, Westmoreland Co., Pa.—Volunteer fire department being organized. Howard Bushyager, Secty.

Oxford, Chester Co., Pa.—Fire apparatus to be purchased.

Salem, Marion Co., Ore.—City to vote on a $30,000 bond issue for purchase of additional fire equipment.

Uniontown, Fayette Co., Pa.—Movement to establish a county fire department is being considered by County Commissioners.

Tamaqua, Schuylkill Co., Pa.—American Hose Company planning to raise funds for purchase of a new pumper.

McKeesport, Allegheny Co., Pa.—Chief Michael J. Quinn recommended that fire alarm boxes be installed in the Jenny Lind Street District.

Schuylerville, Saratoga Co., N. Y.—New fire department organized with Joseph S. Glass, president.

Ceylon, Martin Co., Minn.—Fire company to be formed here and apparatus to be purchased for rural use.

Reseda, Los Angeles Co., Calif.—Chamber of Commerce has started move to have Los Angeles open a regular paid fire department here.

Washington, D. C.—Residents of Woodridge district agitating for erection of fire station.

Haledon (Mail Paterson) Passaic, Co., N. J.—Petition being circulated for organization of another fire company.

Piano, Kendall Co., Ill.—Considering the purchase of a chemical fire truck to cost about $4,000.

Clarissa, Todd Co., Minn.—City to purchase new community fire truck.

West End, Monmouth Co., N. J.—Town in need of new fire apparatus. Council to be petitioned.

Martins Ferry, Belmont Co., Ohio.—City Council approved a $12,500 bond issue for purchase of a new aerial truck for fire department.

CONVENTION DATES

May 10–13—NATIONAL FIRE PROTECTION ASSOCIATION (International). 30th Annual Meeting, Atlantic City, N. J. Secretary, Franklin H. Wentworth, 40 Central St., Boston, Mass.

May 19-20—NATIONAL FIREMEN'S ASSOCIATION. 28th Annual Convention, Chicago, Ill. Secretary, Captain J. E. Mersch, 715 Monroe Street, Evanston, Ill.

June (date not set)—SOUTHERN NEW YORK VOLUNTEER FIREMEN'S ASSOCIATION. Annual Convention and Tournament, Islip, N. Y. Secretary, August Kalb, 27 N. Center Ave., Rockville Center, N. Y.

June 8–10—HUDSON VALLEY VOLUNTEER FIREMEN'S ASSOCIATION. 37th Annual Convention, Port Jervis, N. Y. Secretary, Chief Chris W. Noll, Fire Department, Poughkeepsie, N. Y.

June 9–11—MARYLAND STATE FIREMEN'S ASSOCIATION, 34th Annual Convention, Westminster, Md. Secretary, George R. Lindsay, Hagerstown, Md.

June 10–12—ARIZONA STATE FIREMEN'S ASSOCIATION. 3rd Annual Convention, Prescott, Arizona. Secretary-Treasurer, Chief W. J. Nemeck, Douglas, Ariz.

June 11-12—LEBANON COUNTY FIREMEN'S ASSOCIATION. Annual Convention, Myerstown, Pa. Secretary, William I. Kutz, Box 233, Myerstown, Pa.

June 16-18—NEW YORK STATE ASSOCIATION OF FIRE CHIEFS. 20th Annual Convention, Hotel Van Curler, Schenectady, N. Y. Secretary-Treasurer, Chief James H. Golden, Fire Department, Cohoes, N. Y.

June 16-19—WISCONSIN STATE FIREMEN'S ASSOCIATION. 39th Annual Convention, and Tournament, Cedarburg, Wis. Recording Secretary, E. Philip Mueller, Jefferson, Wis. State Organizer, Chief H. H. Niemeyer, Portage.

June 22–24—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS. Fourth Annual Convention, Hotel Carpenter, Corner Merrimack and Franklin Sts., Manchester, N. H. Exhibit Hall, New Hampshire State Armory, Secretary, Chief John W. O'Hearn, Watertown, Mass. Chairman, Exhibit Com., Chief Henry H. Heitman, Waterbury, Conn.

July 13-15—MICHIGAN STATE FIREMEN'S ASSOCIATION. 52nd Annual Convention, Caro, Mich. Secretary, H. L. Williams, Ludington, Mich.

July 14—DELAWARE STATE VOLUNTEER FIREMEN'S ASSOCIATION. 6th Annual Convention, New Castle, New Castle County, Del. Secretary, Sam H. Carson, Dover. President, Geo. Clifton Maull, Lewes.

July 21–22—CENTRAL NEW YORK VOLUNTEER FIREMEN'S ASSOCIATION. 33rd Annual Convention and Parade, Endicott, N. Y. Secretary, Millwood Fitch, Moravia, N. Y. Secretary, Local Committee, Floyd L. Jackson, Endicott.

July 26-28—MONTANA STATE FIREMEN'S ASSOCIATION. 35th Annual Convention, Big Timber, Mont. Secretary, D. E. Moser, Bozeman, Mont.

July 27-28—WESTERN NEW YORK VOLUNTEER FIREMEN'S Association. Annual Convention, Kenmore, N. Y. Secretary, Henry A. Clark, 21 Porter Ave., Batavia, N. Y.

Aug.—CENTRAL PENNSYLVANIA VOLUNTEER FIREMEN'S ASSOCIATION. Annual Convention, Tyrone, Pa.

Aug. 9-14—WESTERN PENNSYLVANIA FIREMEN'S ASSOCIATION. 33rd Annual Convention, New Kensington, Pa. Secretary, Secretary Convention Committee, R. A. Kanouff, New Kensington.

Aug. 16-19—FIREMEN'S ASSOCIATION OF THE STATE OF NEW YORK. 54th Annual Convention, Alexandria Bay, N. Y. Secretary, Fred A. Davis, Fort Edward, N. Y.; Treasurer, William H. Swartout, 115 Main Street, Ossining, N. Y.

Aug. 17-18—CONNECTICUT STATE FIREMEN'S ASSOCIATION. 43rd Annual Convention, Elks' Home, Washington St., New London, Conn. Secretary, D. W. Harford, South Norwalk.

Sept. 14–15—IOWA STATE FIREMEN'S ASSOCIATION, 49th Annual Convention, Manning, Ia. Secretary, E. E. Parsons, Marion.

Sept. 14-16—MASSACHUSETTS STATE FIREMEN'S ASSOCIATION. 47th Annual Convention, Fall River, Mass. Secretary, Daniel J. Looney, 1046 Old South Building, Boston, Mass.

Sept. 21-24—INTERNATIONAL ASSOCIATION OF MUNICIPAL ELECTRICIANS. 30th Annual Convention, Battery Park Hotel, Ashville, N. C. Secretary, William R. Arbuckle, Supt. Fire Alarm, Bayonne, N. J. Chairman Exhibit Committee, Daniel J. Morgan, Sales Engr., Hazard Mfg. Co., Wilkes-Barre, Pa.

Sept. 24—NEW JERSEY FIRE CHIEFS' ASSOCIATION. Annual Convention, Atlantic City, N. J. Secretary, Fred A. Trowbridge, 17 South Street, Morristown, N. J.

Sept. 24–25—NEW JERSEY STATE FIREMEN'S ASSOCIATION. 49th Annual Convention, Atlantic City, N. J. Secretary, William Exall, Chamber of Commerce Building, Newark, N. J.

Sept. 27–29—ARKANSAS STATE FIREMEN'S ASSOCIATION. Annual Convention, Jonesboro, Ark. Date of meeting tentative. H. S. Compton, secretary. Central Fire Station, Little Rock, Ark.

Sept. 27-29—KANSAS STATE FIRE CHIEFS' AND STATE FIREMEN'S ASSOCIATIONS. 10th and 39th Annual Conventions, respectively, Manhattan, Kan. Secretary, Chief K. D. Doyle, Wamego, Kan.

Oct. 5–7—FIREMEN'S ASSOCIATION OF THE STATE OF PENNSYLVANIA. Annual Convention, Philadelphia, Pa. Secretary, Charles F. Clark, 411 Bellevue Avenue, Wayne, Pa.

Oct. 12-15—PACIFIC COAST ASSOCIATION of FIRE CHIEFS. 33rd Annual Convention, Fresno, Cal. Secretary, Chief Jay W. Stevens, 1014 Merchants Exchange Building, San Francisco, Cal.

Oct. 19–22—INTERNATIONAL ASSOCIATION OF FIRE ENGINEERS, 54th Annual Convention, Hotel Roosevelt, New Orleans, La. Secretary, Chief James J. Mulcahy, Yonkers, N. Y. Chairman Exhibit Committee, Chief Wm. F. Daley, Brockton, Mass.

Oct. 20—OFFICERS' ASSO. FIRE PATROLS, SALVAGE CORPS AND PROTECTIVE DEPTS. OF U. S. AND CANADA. Meeting at New Orleans in connection with I. A. F. E. Convention. Secretary, John Ashmead, 76 William St., New York City.

Do what This Chief Did

A well-known Fire Chief of one of our large cities specified Signal Two Collar Shirt, number 25, for his entire department.

With all the men wearing the same style and kind of shirt the department is now absolutely uniform, and the Chief and his men take pride in their appearance.

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Racine, Wisconsin

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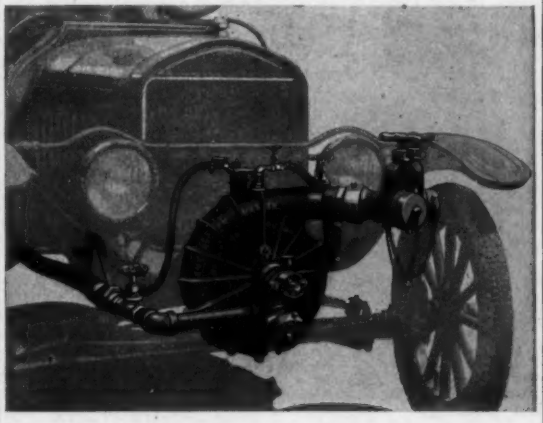

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S & M Pick-Up-Lites for Fire Apparatus.

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Light Projection 3600 ft.

The S & M Spot-Lite is recognized everywhere as the standard of excellence.

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Gamewell Has Year of Great Accomplishment

The agency year of the Gamewell Company which closed on March 31, has proved, according to the estimate of V. C. Stanley, the president and general manager of the company, one of the greatest in respect to accomplishment in the history of the concern. The sales have been the largest the company has ever experienced. In referring to this, Mr. Stanley says: "There is a growing appreciation on the part of city officials that more complete and effective fire alarm systems are needed, if the fullest value is to be derived from the fire department, adequate water supply and complete motor equipment which many of our cities now possess.

"We are especially pleased that this past year has seen the completion of a new fire alarm station in Boston, which impartial observers have told us was the finest fire alarm central office in the world. The fire alarm telegraph first saw the light of day in Boston and it is particularly appropriate that the home of the original fire alarm system should now be the home of the most modern system.

"I believe that the years to come will be even more prosperous for the fire alarm industry and I know that this increased realization of the importance of fire alarm and fire departments is going to be reflected in an increased interest in the work that your publication is doing."

N. F. P. A. Annual Meeting May 10–13

The National Fire Protection Association is making plans for their thirtieth annual meeting to be held in Atlantic City at the Hotels Chalfonte-Haddon Hall on May 10 to 13 inclusive. A detailed announcement will be mailed to the membership of the association about two weeks prior to the meeting.

Monday morning will be set aside for the registration of the guests and the convention will formally open at 2:30 of that afternoon. The sessions in the afternoon and evening will include the president's address, administration reports, report of the committee on fire prevention and other technical committee reports. If the weather permits, a motion picture will be taken of those in attendance.

On Tuesday, there will be sessions in the morning and afternoon—the evening will be left free. Following the business session on Wednesday, there will be a marine demonstration of fire protection in the afternoon. On Wednesday evening, there will be motion pictures of fire protection interest. On Thursday morning and afternoon, there will be regular sessions with the election of officers as the last item on the program.

Practically all of the important committees for the year will submit reports, and there will be opportunities for the discussion of the work. The reports will be reprinted in pamphlet form and will be available upon request in advance of the meeting.

Those that plan to attend should note that immediately upon registration, they should obtain their badges, copies of the programs and committee reports.

Several entertainment features have been planned, and reservations for the hotel should be wired direct.

Kansas Chiefs and Firemen to Meet

The tenth annual convention of the Kansas State Association of Fire Chiefs and the 39th annual convention of the Kansas State Firemen's Association will meet, according to information received from Chief K. D. Doyle, Wamego, secretary of both bodies, in Manhattan, Kan., on September 27 to 29. An interesting program is now being arranged, one feature of which, according to Chief Doyle, is to be a talk by J. W. Stevens, state fire marshal of California, and secretary of the Pacific Coast Association of Fire Chiefs. Others will be a talk on proper fire apparatus lubrication and a demonstration of fire prevention work in the schools. Chief Noble, of the Manhattan Department, and his men are hard at work formulating a fine entertainment program, and every indication is for a successful convention.

Fond du Lac Assistant Chief Retires

After thirty-six years in the Fond du Lac, Wis., fire department, Assistant Chief Nicholas Scherer has been retired from active duty at the age of sixty-five years.

He joined the department on April 1, 1890, at the time when the department consisted of ten men and several small pieces of apparatus. In 1907 he was promoted to captain; in 1909 he was advanced to assistant fire chief. He has seen both the town and the fire department grow to its present large size, and he has participated in many of the major fires.

Dubuque Men Receive Raise in Salary

The members of the Dubuque, Ia., Fire Department, on April 1, received a general advance in salary. The new rate, compared with the salary previously paid, is as follows:

Rank	*Former salary*	*Present salary*
Chief	$3,600	$4,000
Secretary	1,740	2,100
Department mechanic	1,800	1,920
Captains	1,740	1,860
Lieutenants	1,620	1,740
Engineers	1,620	1,740
First grade men	1,560	1,680
Second grade men	1,500	1,620
Third grade men	1,320	1,440
Fire Alarm Operators	1,560	1,680
Supt. of Fire Alarm	2,100	2,280

Statement of Ownership

Statement of the ownership, management, circulation, etc., required by the Act of Congress of August 24, 1912, of FIRE ENGINEERING, published semi-monthly at Albany, New York, for April 1st, 1926.

State of New York, County of New York, ss.:

Before me, a Notary Public in and for the state and county aforesaid, personally appeared I. H. Case, who, having been duly sworn according to law, deposes and says that he is the General Manager of FIRE ENGINEERING and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of Congress of August 24, 1912, embodied in section 443, Postal Laws and Regulations, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business manager are:

Publisher, Case-Shepperd-Mann Publishing Corporation, 225 West 34th Street, New York City.

Editor—Robert H. Lockwood, 225 W. 34th Street, New York City.

Managing Editor—Frederick Shepperd, 225 W. 34th Street, New York City.

General Manager—I. H. Case, 225 W. 34th Street, New York City.

2. That the owners are:

Case-Shepperd-Mann Publishing Corporation, 225 W. 34th Street, New York City.

I. H. Case, 225 W. 34th Street, New York City.

K. M. Mann, 225 W. 34th Street, New York City.

Frederick Shepperd, 225 W. 34th Street, New York City.

C. B. Hayward, 225 W. 34th Street, New York City.

R. H. Lockwood, 225 W. 34th Street, New York City.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent. or more of total amount of bonds, mortgages, or other securities are: None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain, not only the list of stockholders and security holders as they appear upon the books of the company, but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

I. H. CASE,
General Manager.

Sworn to and subscribed before me this 31st day of March, 1926.
(Seal) Henry B. Lockwood,
(My commission expires March 30, 1928.)

New Trade Literature Received

The following literature descriptive of up-to-date methods and equipment for fire prevention and fire extinguishing, has just been issued for general distribution, and can be procured by writing to the concern mentioned. Those desiring additional trade literature in which they are interested may use our regular "Information for Buyers" Page, listed in the Advertising Index.

Foamite-Childs Corporation, 600 Turner Street, Utica, N. Y.—Monthly 1926 Calendar, handsomely printed and topped off with three-horse-hitch steamer in action.

International Motor Company, 25 Broadway, New York—Catalogue No. BF1, Mack Fire Apparatus, Model AB, describing and illustrating the different types of fire apparatus and equipment manufactured by the corporation, as well as accessories used in connection with Model AB fire apparatus chassis and body types.

B. F. Goodrich Rubber Company, Akron, Ohio—"The Hardest Fire I Ever Fought—A Series of Experiences of Our Noted Fire Chiefs." Every other page of 23 page book is devoted to this subject, with portraits of chiefs, the other pages being descriptions and illustrations of Goodrich Fire Hose. Printed in colors.

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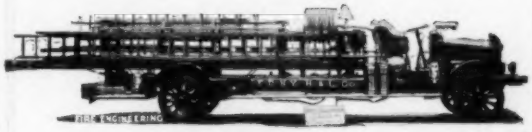

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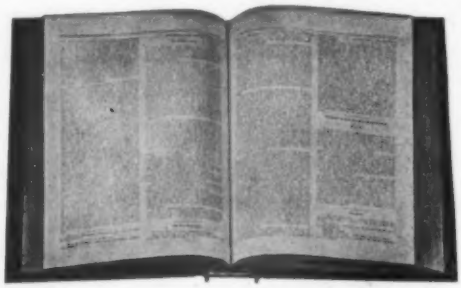

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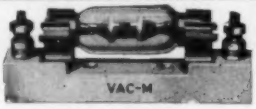
Why? VAC-M Arresters  **Why?** VAC-M Arresters

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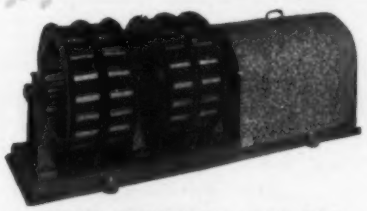

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This Life Line—

is for Fire Protection Officials

who are not already regular subscribers to FIRE ENGINEERING, (225 W. 34th Street, N. Y. C.) We guarantee to sweep you off your feet with the wealth of worth-while, interesting, practical information we'll give you every issue—24 for $3, payable 30 days after you receive your bill—if you are satisfied!

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Following the rules of the game

Codes of business and professional ethics are not a happy accident. They evolved, the logical outcome of one man's consideration for another. The honorable act became the rule of the game.

A code of ethics as strict and binding as that of any business or profession has been adopted and is put in practice by the publication that carries this message and by the other member publications of the Associated Business Papers, Inc.

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(6) To determine what is the highest and largest function of the field which the publisher serves, and then to strive in every legitimate way to promote that function.

These pledges mean you can place full faith in the editorial content and in the advertisements in this publication.

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The firms publishing the advertisements have chosen this paper to reach the progressive men who are searching for ways and means to enhance the value of their service. Such advertising eliminates waste, and consequently reduces selling costs.

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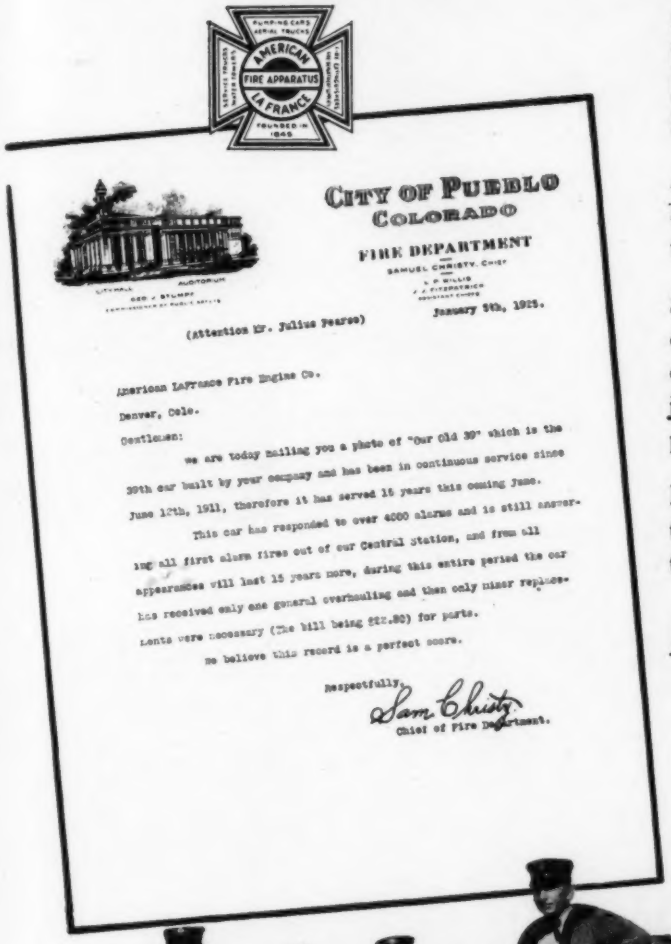


CITY OF PUEBLO
COLORADO
FIRE DEPARTMENT
SAMUEL CHRISTY, Chief

January 5th, 1926.

(Attention Mr. Julius Pearse)

American LaFrance Fire Engine Co.
Denver, Colo.

Gentlemen:

We are today mailing you a photo of "Our Old 39" which is the 39th car built by your company and has been in continuous service since June 12th, 1911, therefore it has served 14½ years this coming June.

This car has responded to over 4000 alarms and is still answering all first alarm fires out of our Central Station, and from all appearances will last 15 years more, during this entire period the car has received only one general overhauling and then only minor replacements were necessary (The bill being $22.80) for parts.

We believe this record is a perfect score.

Respectfully,
Sam Christy
Chief of Fire Department.

Since June, 1911, the thirty-ninth car built by the American-LaFrance Fire Engine Company has answered every first alarm fire in Pueblo, Colo.

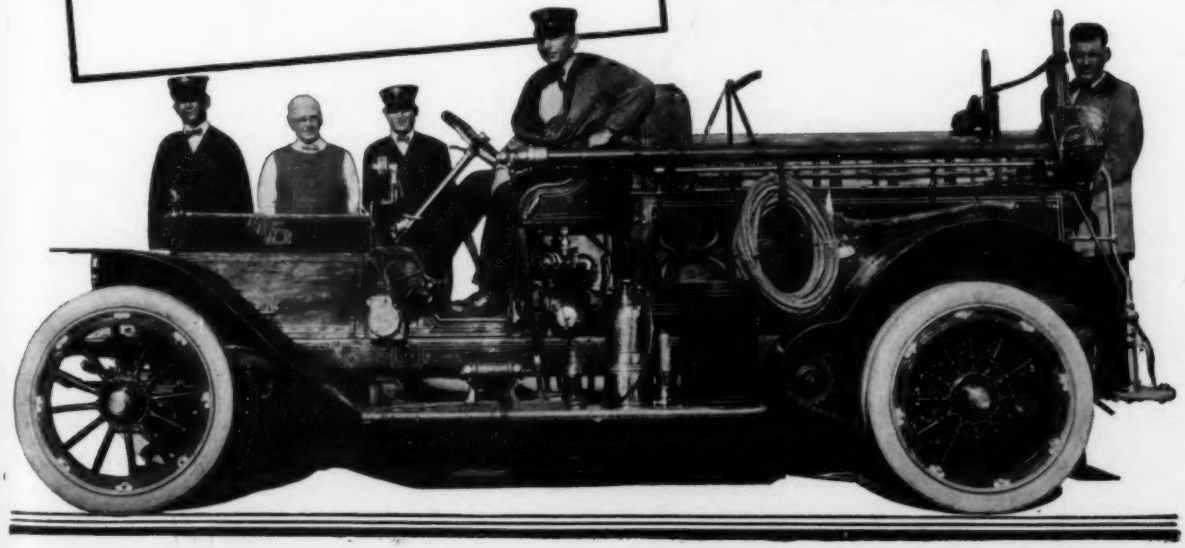
According to Chief Christy the car is still going strong and is good for fourteen years more.

Since No. 39 was built nearly 5,500 other fire fighting cars have been turned out by us, every one of which is giving just this kind of service in the fire department where it is on duty.

Long life, speed and the ability to do the unusual make American-LaFrance the favorite of fire chiefs.

AMERICAN-LAFRANCE FIRE ENGINE COMPANY, INC.
ELMIRA, N. Y.
CANADIAN FACTORY: TORONTO, ONT.

BRANCHES	BRANCHES
NEW YORK	BALTIMORE
PITTSBURGH	DENVER
BOSTON	SAN FRANCISCO
CHICAGO	MINNEAPOLIS
ATLANTA	KANSAS CITY, MO
DALLAS	LOS ANGELES
PHILADELPHIA	PORTLAND



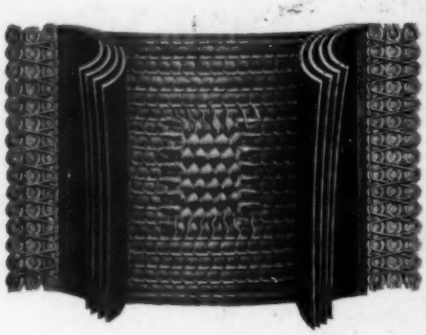
You can't afford to buy Fire Hose on a price basis!

Life and property depend upon the effective functioning of your fire hose. You must be able to depend absolutely upon every foot of hose in service.

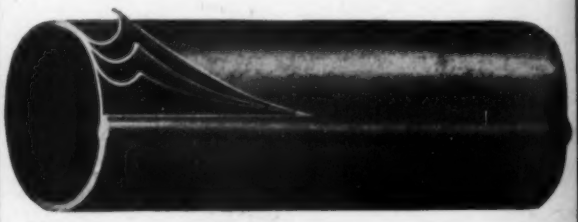
When you buy Fire Hose you make an investment—an investment in efficient, dependable fire protection. Why continue to buy hose on a compromise basis when often if but ten cents a foot were added to the purchase price you could buy the finest hose on the market—hose that will outlast the cheaper hose at least two or three times !

Stop jeopardizing the dependability of your hose equipment by short-sighted purchasing. For over fifty years Paragon and the other famous brands of Eureka manufacture have been the recognized standards of fire hose quality and service.

The secret of Eureka Service lies in the Eureka Construction.



This cross-section of Eureka four-ply, circular multiple woven Fire Hose shows the exclusive smooth interior construction. An extra ply of fine yarn woven in the valleys of the inner surface, levels off that surface of the fabric which comes into contact with the rubber tube—entirely eliminating the ribbing or corrugating of rubber linings, unavoidable with other constructions. This feature adds 25% to cover strength.



There is no finer rubber lining made than the four-ply, hand-made, lap-joined tubes that form the waterway for all brands of Eureka hose. Another factor of Eureka Fire Hose supremacy. From cover to tube, there is no better hose on the market than the famous brands bearing the Eureka trade mark.

EUREKA FIRE HOSE

EUREKA FIRE HOSE MANUFACTURING CO.
50 CHURCH STREET NEW YORK CITY

ATLANTA
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CHICAGO
COLUMBUS
DALLAS
DENVER
DETROIT
KANSAS CITY
SYRACUSE
LOS ANGELES
MINNEAPOLIS
PHILADELPHIA
SEATTLE

TRADE MARK

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